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ABSTRACT

A catalog lists programed instruction material for military tasks that has been developed by the U.S. Navy. Part one of the catalog lists programed material alphabetically by subject area. Information provided for each program includes title, classification, identification code to be used when requesting copies of the program, population for whom the program was designed, style of programing, average time to complete the program, validation data, and author. Part two lists programs under development alphabetically by subject area. Programs in parts one and two are indexed and cross-referenced in the third section. Complete addresses for obtaining programed material are given in a fourth section. (JY)

ED 058720

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NAVPERS 93826A

CATALOG
OF
PROGRAMMED INSTRUCTIONAL
MATERIAL

BUREAU OF NAVAL PERSONNEL
WASHINGTON, D.C. 20370
APRIL 1970

EM 009 501

FORWARD

This catalog is published by the Chief of Naval Personnel in accordance with OPNAV Instruction 1500.24.

Sheldon Kinney

SHELDON H. KINNEY
Rear Admiral, U. S. Navy
Assistant Chief for Education and Training
Bureau of Naval Personnel

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INTRODUCTION

This catalog of programmed instructional material is published in accordance with Chief of Naval Operations policy guidance and procedures as set forth in OPNAV Instruction 1500.24 dated 2 December 1966 (attached). The purpose of the Catalog is to publish information regarding all instructional units which have been programmed by the Navy. Chief of Naval Operations policy requires that all programmed instructional material developed within the Navy will be made readily available to all training activities within the Navy and the other military services in order to avoid duplication of costly programming efforts.

Activities desiring to review programs which were developed by the Bureau of Naval Personnel will forward all requests to the Chief of Naval Personnel (Pers-Cd11), Navy Department, Washington, D. C. 20370. All requests for other programs listed in the Catalog will be forwarded to the activities which developed the programs. Identify programs desired by title and identification code (if available). The number of copies of each program requested will be limited to one (1) in order to avoid placing an excessive burden on the printing resources of the activity which developed the program. In certain instances, the developer will only be able to provide a copy of the requested program on a loan basis, to be returned to the developer following review and reproduction by the requester.

Activities having programs listed in this catalog are requested to notify the Chief of Naval Personnel (Pers-Cd11) as soon as a program is cancelled in order to remove it from the catalog. Also notify Pers-Cd11 of errors or changes in Identification Codes. Comments and recommendations are invited from all holders of this catalog.

The catalog is divided into four parts. They are:

PART 1 - PROGRAMMED INSTRUCTIONAL MATERIAL DEVELOPED BY THE NAVY
(Programs are placed alphabetically by subject area)

Information for each program includes:

a. Title of the program.
b. Classification. When appropriate.
c. Identification code to be used when requesting copies of the program. (if available)
d. Scope or brief description of the contents of the program.
e. Population for whom the program was designed.
f. Style of programming.
g. Average (actual or estimated) time required by learners to complete the program.
h. Validation Data. (if available)
i. Name and address of the activity which developed the program and from which the program is to be requested. (Only the activity short title will be listed in this part, for the complete address turn to Part 4--in the case of BuPers send requests to Pers-Cd11 as stated above.)

Statements of objectives can be obtained from the developer of the program except where otherwise indicated.

PART 2 - PROGRAMS UNDER DEVELOPMENT OR BEING PLANNED
(Programs are placed alphabetically by subject area)

PART 3 - INDEX AND CROSS REFERENCE
(Programs listed by subject area and by title with proper page number for readily locating a program in both PARTS 1 and 2.)

PART 4 - LISTING OF COMPLETE ADDRESSES FOR OBTAINING PI MATERIAL

DEPARTMENT OF DEFENSE
UNITED STATES OF AMERICA

DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
WASHINGTON, D.C. 20350

IN REPLY REFER TO

OPNAVINST 1500.24
Op-562
Ser 1505P56

2 DEC 1966

OPNAV INSTRUCTION 1500.24

From: Chief of Naval Operations
To: Distribution List

Subj: Programmed Instructional Material; policy concerning development of

1. Purpose. This Instruction establishes policy and procedures for the coordination of effort in preparation of programmed instruction training texts in the Navy.

2. Background. Programmed instructional material is being developed at more than twenty-five fleet and shore activities at the present time and the instructional programming capability of the Navy is increasing continuously. No formal procedures to minimize undesirable duplication of effort or to furnish assistance to activities desiring information in this field have been developed.

3. Policy. It is the policy of the Chief of Naval Operations that programmed instructional material developed within the Navy be readily available to all training activities within the Navy and the other military services. Further, duplication of effort in developing such material by Navy activities should be minimized insofar as feasible and consistent with particular training requirements.

4. Definition. For purposes of this Instruction, programmed instructional material is defined as texts, lesson material, and teaching aids in general which are prepared in programmed format for use in classroom and/or individual learner situations.

5. Action. In implementation of the policy set forth above, the following action is required.

a. Chief of Naval Personnel. Establish a clearing house to publish to training activities within the Department of the Navy a catalog of programmed training material. Such a catalog should list title, cognizant activity, brief summary, classification, and other pertinent information for each item. The catalog should be revised on a regular basis at least once annually. In addition, prepare and publish a guide to format, based upon the above, for submissions of information by training activities.

b. Training Activities. Submit information on programmed training materials in response to request by the Chief of Naval Personnel. Once the catalog has been established, determine that proposed instructional programming efforts do not needlessly duplicate work that has already been accomplished elsewhere and utilize available material when feasible.

HORACIO RIVERO
Vice Chief of Naval Operations

Distribution List:

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PART 1

PROGRAMMED INSTRUCTIONAL MATERIALS DEVELOPED BY THE NAVY

ADMINISTRATION

Inventory of Ship's Store Stock 6ND-NSCS-422-4-14 (10/65).
Identification Code: 6ND-NSCS-P-52
The student will learn the principles involved in conducting accurate inventories of ship's store stock in accordance with regulations set forth in Chapter 9 of NAVSUP Manual, Volume III.
Prepared for: Officer Students, NSCS
Type of Program: Linear-Branching
Average Time Required: 1 hour
Validation Data: Not available--Students are not tested on the subject matter included in the program immediately upon completion of the program; items covered by the program are included in an overall test given at a later point in the Basic Qualification Course.
Statement of objectives are not available from the developer.
Developer: NAVSCSCOL, ATHENS

Records
Identification Code: 6ND-NSCS-422-4-15
The student will learn, from the managerial standpoint, the principles involved in accurate General Mess records keeping in accordance with the regulations set forth in Chapter 7 of NAVSUP Manual, Volume III.
Prepared for: Basic Qualification Course Students
Type of Program: Linear-Branching
Average Time Required: 1 hour

Validation Data:	Number of learners tested	128
	Low score	76
	High score	98
	Percentage who scored 90% or higher	50

Developer: NAVSCSCOL, ATHENS

AERODYNAMICS

Basic Aerodynamics, Part I
Identification Code: CNABT-P-713X PAT
Symbols and abbreviations, terminology, lift, drag, high-lift devices, and stalls.
Prepared for: Student Naval Aviators/Flight Preparation
Type of Program: Linear
Average Time Required: 2 hours and 55 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Aerodynamics of Induced Drag
Identification Code: None. Use title
Enables the student to identify the features of an airfoil section further, the student is presented the aerodynamic phenomena associated with subsonic flow and the development of induced drag.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 1 hour
Validation Data: Not available
Developer: NAS, CHASE FIELD

AERODYNAMICS

Introductory Aerodynamics - Helicopter
Identification Code: CNABT-P-523 PAT
Refreshes the memory of students and explains some of the differences between fixed and rotary aerodynamics. Includes terms peculiar to rotary-wing aerodynamics.
Prepared for: Helicopter Flight Students
Type of Program: Branching
Average Time Required: 38 minutes
Validation Data: Not available
Developer: CNABATRA, NAS, PENSACOLA

T-28 Aerodynamics
Identification Code: CNABT-P-524 PAT
Introduction to the T-28 including design, performance, maneuvers, stability, control, and systems.
Prepared for: Student Naval Aviators
Type of Program: Branching
Average Time Required: 2 hours and 48 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Autorotation: Helicopter Aerodynamics
Identification Code: CNABT-P-715X PAT
Aerodynamics theory of the helicopter in an autorotative state.
Prepared for: Helicopter Flight Students
Type of Program: Linear
Average Time Required: 30 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Drag
Identification Code: None. Use title.
Covers all drag generated by an aircraft by its two basic forms including types within the form.
Prepared for: Student Jet Aviators
Type of Program: Linear
Average Time Required: 45 minutes
Validation Data: Not available
Developer: NAS, KINGSVILLE

AIR CONDITIONING

Review of Air-Conditioning Principles
Identification Code: CNATT-N233 PAT
A review of the major components of an air-conditioning system, the four events of an air-conditioning cycle, the types of heat, the purpose for pressurizing refrigerants, and the two commonest refrigerants used in naval systems.
Prepared for: NAMTRADETS Students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	72
	Low score	92
	High score	100
	Percentage who scored 90% or higher	92

Developer: NAMTRAGRU, NAS, MEMPHIS

AIR CONTROL

Air Navigation - The Earth
Identification Code: CNATT-P-5298 PAT
Includes specific terms and definitions used in conjunction with the earth and its coordinates. Involves solving problems in addition and subtraction of degrees, minutes, and seconds of latitude and longitude. Requires the trainee to learn and apply formulas for finding true bearing, relative bearing, and true heading.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 2 hours and 15 minutes

Validation Data:	Number of learners tested	76
	Low score	74
	High score	100
	Percentage who scored 88.1% or higher	89.2

Developer: NATTC, NAS, GLYNCO

Air Navigation - ILS
Identification Code: CNATT-P-5172 (Rev. 10-66) PAT
Describes the different components of the Instrument Landing System and the function of each. Contains information on supplemntary components and their function when used in conjunction with ILS. Includes procedures used in making an ILS approach to familiarize the learner with pilot technique.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 2 hours and 20 minutes

Validation Data:	Number of learners tested	103
	Low score	70
	High Score	100
	Percentage who scored 88.2% or higher	88.9

Developer: NATTC, NAS, GLYNCO

Air Navigation - The Magnetic Compass
Identification Code: CNATT-P-5137 PAT
Describes the capabilities, limitations, operating principle, and specific terms used in conjunction with the magnetic compass. Includes basic navigational procedures used in applying variation and deviation when using the magnetic compass.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 2 hours

Validation Data:	Number of learners tested	113
	Low score	73
	High score	100
	Percentage who scored 90% or higher	92.9

Developer: NATTC, NAS, GLYNCO

Air Navigation - TACAN
Identification Code: CNATT-G17 PAT
Describes the uses, operational characteristics, and limitations of TACAN. Familiarizes the trainee with the aircraft equipment required to utilize this navaid.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 55 minutes

Validation Data:	Number of learners tested	104
	Low score	50.02
	High score	100
	Percentage who scored 90% or higher	89.5

Developer: NATTC, NAS, GLYNCO

AIR CONTROL

Air Navigation - VOR, Part I
Identification Code: CNATT-P-5278 PAT
Describes the uses and characteristics of VHF omnidirectional ranges and the aircraft equipment required to utilize this aid to navigation. This program does not include pilot orientation procedures and must be supplemented with practical application by conventional teaching methods. VOR, Part II, must be used in conjunction with this program.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 20 minutes

Validation Data:	Number of learners tested	66
	Low score	77
	High score	100
	Percentage who scored 90% or higher	88.7

Developer: NAATC, NAS, GLYNCO

Air Navigation - VOR, Part II
Identification Code: CNATT-P-5269 PAT
Contains the frequency range, power output, anticipated altitude service and interference free distance service of VOR. Includes operational characteristics and limitations of associated DME components. Describes the make-up of VOR airways structure used within the United States. This program must be preceded by VOR, Part I.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 54 minutes

Validation Data:	Number of learners tested	66
	Low score	75
	High score	100
	Percentage who scored 90% or higher	90.3

Developer: NATTC, NAS, GLYNCO

Air Route Traffic Control - Approach Control
Identification Code: CNATT-G-45 PAT
Covers the procedures used at an approach control facility, requirements that must be met to establish an approach control, responsibilities and coordination between facilities.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	77
	Low score	70
	High score	100
	Percentage who scored 90% or higher	94.8

Developer: NATTC, NAS, GLYNCO

Air Route Traffic Control - Departure Procedures
Identification Code: CNATT-G28 PAT
The elements of a departure clearance, when issued and how amended. Describes standard instrument departure procedures and the coordination required between Air Traffic Control facilities concerning departing traffic.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 5 minutes

Validation Data:	Number of learners tested	54
	Low score	78.6
	High score	100
	Percentage who scored 89.6% or higher	90

Developer: NATTC, NAS, GLYNCO

AIR CONTROL

Air Route Traffic Control - En Route Procedures
Identification Code: CNATT-G38 PAT
Includes detailed information on coordination procedures utilized between air traffic control facilities.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 20 minutes

Validation Data:	Number of learners tested	83
	Low score	66.7
	High score	100
	Percentage who scored 90% or higher	91.6

Developer: NATTC, NAS, GLYNCO

Air Route Traffic Control - Laterial Separation
Identification Code: CNATT-G8 PAT
Specifies the minima utilized in applying lateral separation between IFR aircraft en route and holding. The procedures that are used by Air Route Traffic Control Centers and approach control facilities in applying separation minima are included.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 20 minutes

Validation Data:	Number of learners tested	81
	Low score	72
	High score	100
	Percentage who scored 86% or higher	98.8

Developer: NATTC, NAS, GLYNCO

Air Route Traffic Control - Longitudinal Separation, Part I
Identification Code: CNATT-G15 PAT
Covers the minima and procedures utilized in the application of longitudinal separation as applied in time and distance by the Air Route Traffic Control Centers. Includes the procedures to be used between IFR aircraft departing and en route, same direction. (En route altitude changes are not included in this program.) This program must be supplemented by conventional instruction in the application of the rules. Longitudinal Separation, Part II, is required to complete this unit of instruction.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 1 hour

Validation Data:	Number of learners tested	89
	Low score	75
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, GLYNCO

AIR CONTROL

Air Route Traffic Control - Longitudinal Separation, Part II

Identification Code: CNATT-G23 PAT

Contains the minima and procedures utilized in the application of longitudinal separation by Air Route Traffic Control Centers during altitude changes. Includes the procedures to be used for altitude change between IFR aircraft on the same or opposite courses. This program must be supplemented by conventional instruction in the application of the rules, and the instructional program Longitudinal Separation, Part I.

Prepared for: Air Controlman School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	81
	Low score	50
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, GLYNCO

Air Route Traffic Control - Timed Approaches

Identification Code: CNATT-G22 PAT

Contains the requirements that must be met before timed approaches may be conducted at an airport. Includes the minimum separation and what factors are taken into consideration when determining this minima.

Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	55
	Low score	83
	High score	100
	Percentage who scored 90% or higher	98

Developer: NATTC, NAS, GLYNCO

Air Route Traffic Control - Vertical Separation

Identification Code: CNATT-G7 PAT

Specifies the minima utilized in applying vertical separation between IFR aircraft en route, climbing, or descending. Increases the procedures that are used by Air Traffic Control in applying the minima. Conventional instruction is required to teach the trainee how to apply these rules.

Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 25 minutes

Validation Data:	Number of learners tested	66
	Low score	79
	High score	100
	Percentage who scored 90% or higher	93.8

Developer: NATTC, NAS, GLYNCO

Air Route Traffic Control - VFR Operations, Part I

Identification Code: CNATT-G42 PAT

Contains the procedures for the control of IFR aircraft operating with a VFR restriction.

Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	74
	Low score	79
	High score	100
	Percentage who scored 86% or higher	98.79

Developer: NATTC, NAS, GLYNCO

AIR CONTROL

Air Route Traffic Control - VFR Operations, Part II
Identification Code: CNATT-G47 PAT
Covers separation minima used between special VFR helicopters and IFR fixed-wing aircraft.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	78
	Low score	65
	High score	100
	Percentage who scored 86% or higher	94.6

Developer: NATTC, NAS, GLYNCO

Air Traffic Rules - Cruising Altitude Rules
Identification Code: CNATT-G24 PAT
Rules that pilots must comply with in respect to the correct altitude for the direction of flight. Includes rules for flight in all airspace, whether the flight is operating under visual or instrument flight rules. This program must be supplemented by conventional instruction in the application of these rules.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 5 minutes

Validation Data:	Number of learners tested	82
	Low score	50
	High score	100
	Percentage who scored 90% or higher	90.3

Developer: NATTC, NAS, GLYNCO

Air Traffic Rules - IFR Communications
Identification Code: CNATT-G9 PAT
Provides the trainee with knowledge of the procedures executed by the pilot in the event of two-way communications failure and the action to be taken by Air Traffic Control in the event a pilot loses communications while en route.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 5 minutes

Validation Data:	Number of learners tested	77
	Low score	82
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, GLYNCO

Air Traffic Rules - VFR Weather Minimums
Identification Code: CNATT-P-5214 PAT
Contains the basic minima for Visual Flight Rules expressed in cloud clearance and flight visibility required for flight within and outside of controlled airspace to maintain VFR. Sets forth the required ground visibility and special VFR weather minima within a control zone for fixed-wing and rotary-wing aircraft. Conventional instruction is required to effect practical application of these rules.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 1 hour

Validation Data:	Number of learners tested	106
	Low score	75
	High score	100
	Percentage who scored 90% or higher	91.9

Developer: NATTC, NAS, GLYNCO

AIR CONTROL

Airport Traffic Control - Airport Facilities
Identification Code: CNATT-G33 PAT
Contains the factors which influence the selection of an airport site and the proper methods used in numbering runways and marking the compass rose. Describes taxiway markings, holding post markings, and Navy standard markings. Explains the uses and purposes of wind direction indicators.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 55 minutes
Validation Data:

Number of learners tested	94
Low score	89
High score	100
Percentage who scored 90% or higher	90.4

Developer: NATTC, NAS, GLYNCO

Airport Traffic Control - Airport Lighting
Identification Code: CNATT-G50 PAT
Covers the location, spacing, and colors of standard lighting aids at U. S. airports.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 15 minutes
Validation Data:

Number of learners tested	91
Low score	83
High score	100
Percentage who scored 90% or higher	91.2

Developer: NATTC, NAS, GLYNCO

Airport Traffic Control - Altimeter Setting Information
Identification Code: CNATT-G30 PAT
Procedures for the use of the aircraft altimeter and the altimeter setting indicator in the control tower. Contains the steps to be taken in determining the corrected altimeter setting for each indicator.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 50 minutes
Validation Data:

Number of learners tested	84
Low score	75.1
High score	100
Percentage who scored 90% or higher	97.6

Developer: NATTC, NAS, GLYNCO

Airport Traffic Control - Control of Ground Traffic
Identification Code: CNATT-G41 PAT
Contains the procedures for the control of aircraft, vehicles, and personnel on the airport movement area.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 45 minutes
Validation Data:

Number of learners tested	91
Low score	80.2
High score	100
Percentage who scored 93% or higher	91.1

Developer: NATTC, NAS, GLYNCO

AIR CONTROL

Airport Traffic Control - Separation Minima
Identification Code: CNATT-G10 (Rev. 9-68) PAT
Contains the procedures and rules to be applied between fixed-wing aircraft and/or helicopters while landing and taking off in VFR weather conditions. Sets forth the procedures to effect separation of VFR traffic, the minima and exceptions to minima between all types of aircraft landing and taking off in VFR conditions.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 15 minutes

Validation Data:	Number of learners tested	75
	Low score	71.5
	High score	100
	Percentage who scored 90% or higher	89.33

Developer: NATTC, NAS, GLYNCO

Airport Traffic Control - Special VFR Operations within the Control Zone
Identification Code: CNATT-G20 PAT
Contains criteria and procedures applicable to both pilots and controllers to conduct Special VFR Operations in the control zone when weather conditions are less than basic VFR minima.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 5 minutes

Validation Data:	Number of learners tested	85
	Low score	79
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, GLYNCO

Aviation Weather - Aviation Weather Forecasts
Identification Code: CNATT-G43 PAT
Instructs the trainee on the winds-aloft forecasts, area forecasts, and terminal forecasts, the periods covered, and the methods of transmission.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 15 minutes

Validation Data:	Number of learners tested	97
	Low score	76.9
	High score	100
	Percentage who scored 92% or higher	97.9

Developer: NATTC, NAS, GLYNCO

Aviation Weather - Hazardous Weather Elements Affecting Aviation
Identification Code: CNATT-G52 PAT
Covers the characteristics of thunderstorms, icing conditions, tornadoes, funnel clouds, and waterspouts.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 55 minutes

Validation Data:	Number of learners tested	71
	Low score	79
	High score	100
	Percentage who scored 90% or higher	89.6

Developer: NATTC, NAS, GLYNCO

AIR CONTROL

Aviation Weather - Pilot Weather Reports (PIREP's)
Identification Code: CNATT-G39 PAT
Includes weather elements and values reportable by the pilot. The proper format to be used when transmitting a PIREP via teletype, radio or landline.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 20 minutes

Validation Data:	Number of learners tested	78
	Low score	70
	High score	100
	Percentage who scored 90% or higher	91.03

Developer: NATTC, NAS, GLYNCO

FAS/COMM - General Rules and Procedures for ATC Communications
Identification Code: CNATT-G54 PAT
Teaches basic procedures concerning the FAA teletypewriter systems, concentrating mainly on the Service B System. Contains procedures used when transmitting interphone messages.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	58
	Low score	73.6
	High score	100
	Percentage who scored 90% or higher	90.1

Developer: NATTC, NAS, GLYNCO

FAS/COMM - IFR Flight Movement and Control Messages
Identification Code: CNATT-G49 PAT
Covers the movement and control messages used in the control of IFR traffic. This includes the IFR flight plan message, IFR departure report, flight notification message, IFR flight progress report, and IFR arrival report.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	91
	Low score	41.15
	High score	100
	Percentage who scored 91% or higher	89.1

Developer: NATTC, NAS, GLYNCO

FAS/COMM - Preflight Pilot Briefing, Part I
Identification Code: CNATT-G51 PAT
Contains FSS procedures as associated with preflight pilot briefings. Includes the dissemination, coding, and decoding of civil NOTAMS.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	105
	Low score	70.5
	High score	100
	Percentage who scored 90% or higher	90.4

Developer: NATTC, NAS, GLYNCO

AIR CONTROL

FAS/COMM - Preflight Pilot Briefing, Part II (USAF/USN NOTAM's)
Identification Code: CNATT-G53 PAT
Teaches the basic procedures used within the continental United States for the dissemination and exchange of Navy and Air Force NOTAM's. Includes the different types of NOTAM's and what is contained in each.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 30 minutes

Validation Data:	Number of learners tested	90
	Low score	72
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, GLYNCO

FAS/COMM - Radiotelephone Procedures
Identification Code: CNATT-G48 PAT
Contains the delivery and broadcast techniques used in ATC communications, and the voice phraseology and CW signals used in emergency communications. Includes information on CIRVIS reports and FBI search messages as they apply to air traffic control.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	92
	Low score	73
	High score	100
	Percentage who scored 90% or higher	91.3

Developer: NATTC, NAS, GLYNCO

VT-1 Course Rules
Identification Code: CNABT-P-582 PAT
The course rules governing aircraft during a normal flying day at NAAS Saufley Field.
Prepared for: VT-1, Student Naval Aviators
Type of Program: Linear
Average Time Required: 54 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

AIR INTELLIGENCE

Air Intelligence
Identification Code: CNABT-P-527 PAT
Discusses the major fields of intelligence and explains the meaning and workings of the intelligence cycle.
Prepared for: Naval Flight Officers Students
Type of Program: Branching
Average Time Required: 3 hours
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

AIRCRAFT

A-7 Fuel System Familiarization

Identification Code: CNATT-N158 PAT

The major systems in the A-7 fuel system; the number of tanks and fuel capacity of the main system, the transfer system, the external and tanker system; the purpose of the Douglas D704, the motive flow selector valves, and the manual fuel shutoff valve; the methods of fueling the A-7; and the amount of fuel which may be defueled from the A-7. Also covers fuel transfer in the A-7, the type of fuel vent system, the number of thermistors in the A-7, and other pertinent information designed to familiarize the student with the A-7 fuel system.

Prepared for: Naval Air Maintenance Training Detachments

Type of Program: Linear

Average Time Required: 50 minutes

Validation Data:	Number of learners tested	54
	Low score	80
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

A-7 Fuel System Operation (for A-7A Aircraft)

Identification Code: CNATT-N216 PAT

Contains information concerning the fuel tanks, the transfer of fuel by motive flow, the selector valves, the fuel quantity transmitters, the fuel density compensators, fueling and defueling operations, and the pressure sensitive stop value.

Prepared for: NAMTRADETS students

Type of Program: Linear

Average Time Required: 1 hour and 40 minutes

Validation Data:	Number of learners tested	59
	Low score	60
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

A-7A Power Plant - TF30-P-6 Cold Section

Identification Code: CNATT-N52 PAT

Covers the location of the TF30 Cold Section engine stations, cases, flanges, rotor stages, probes, and bleed valves. It also covers the type of bearing and carbon seals located in each bearing area of the TF30 Cold Section.

Prepared for: NAMTRADETS A-7 students

Type of Program: Linear

Average Time Required: 1 hour and 20 minutes

Validation Data:	Number of learners tested	72
	Low score	80
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

AIRCRAFT

A-7A Power Plant, TF30-P-6 Fuel System Introduction

Identification Code: CNATT-N110 PAT

The components of the fuel system and the engine-driven fuel pump, the effect of Px on bleed valves operation, and the location and type of engine driven fuel pump on the TF30-P-6. The purpose of the derichment valve, the fuel filter/heater, the filter drop indicator, the override valve, the fuel flowmeter, the oil cooler, the P & D valve, and the fuel nozzle. Information is also given on the type of fuel nozzle in the TF30-P-6 engine, the primary and secondary manifolds, the method of controlling air flow through the filter/heater, the method by which fuel comsumption is indicated, and other pertinent data.

Prepared for: NAMTRADETS A-7 students

Type of Program: Linear

Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	33
	Low score	85
	High score	100
	Percentage who scored 90% or higher	95

Developer: NAMTRAGRU, NAS, MEMPHIS

A-7A Power Plant - TF30-P-6 Hot Section

Identification Code: CNATT-N53 PAT

Covers the location of the TF30 Hot Section flanges and cases, the type of combustion chambers, the order of removal and installation, and how the combustion chambers are supported. It also covers the type and location of the bearings and carbon seals, the purpose of the transition duct, and the identification of the N_1 and N_2 drive turbines.

Prepared for: NAMTRADETS A-7 students

Type of Program: Linear

Average Time Required: 45 minutes

Validation Data:	Number of learners tested	40
	Low score	70
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

J79-GE-8/8A Engine/Related Systems (for F-4B Aircraft)

Identification Code: CNATT-N200 PAT

Covers the location of the pilot's engine controls, engine indicators, and warning lights. Also includes information on the preferred and alternate methods of starting the J79 engine, the air pressure ratio required, and other related information.

Prepared for: NAMTRADETS students

Type of Program: Linear

Average Time Required: 30 minutes

Validation Data:	Number of learners tested	53
	Low score	88
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

AIRCRAFT

J79-GE-8/8A Engine Systems Familiarization P-I (for F-4B Aircraft)
Identification Code: CNATT-N163 PAT
Covers the four major sections of the J79 engine and the major components of each section. Also includes information on the primary and secondary airflows and the engine length and weight specifications.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 30 minutes

Validation Data:	Number of learners tested	48
	Low score	85
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

J79-GE-8/8A Engine Systems Familiarization PII (F-4B Aircraft)
Identification Code: CNATT-N164 PAT
Covers the major components of the main fuel system, the afterburner fuel system, the variable nozzle system, and the lubrication supply system. Also covers the purpose of the variable stator system, the lube scavenge system, the lube pressurizing system, and the anti-ice system. Other information contained in this program concerns the main ignition system and the afterburner ignition.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	51
	Low score	64
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

S-2D/E Systems Familiarization Hydraulics - Part I
Identification Code: CNATT-N388
Contains information on the hydraulic system of the S-2D/E aircraft. It covers specifically the alighting gear that is operated hydraulically.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 55 minutes

Validation Data:	Number of learners tested	55
	Low score	70
	High score	100
	Percentage who scored 90% or higher	92.5

Developer: NAMTRAGRU, NAS, MEMPHIS

S-2D/E Systems Familiarization Hydraulics - Part II
Identification Code: CNATT-N389
Contains information on the hydraulic system of the S-2D/E aircraft. It covers specifically the flight control systems that are operated hydraulically.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	55
	Low score	76
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

AIRCRAFT

S-2D/E Systems Familiarization, Power Plant - Part I
Identification Code: CNATT-N172 PAT
Contains information on the major sections of the R1820-82A Engine, identification of cylinders, the engine oil system, oil system components, oil cooler door, oil dilution system, ignition system, ignition system components, and the induction vibration.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 55 minutes

Validation Data:	Number of learners tested	55
	Low score	82
	High score	100
	Percentage who scored 90% or higher	98

Developer: NAMTRAGRU, NAS, MEMPHIS

S-2D/E Systems Familiarization, Power Plant - Part II
Identification Code: CNATT-N173 PAT
Contains information on the fuel system, the fuel system components, the fuel dump system, the priming system, and the carburetors on the R1820-82A engine.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	55
	Low score	73
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

S-2D/E Systems Familiarization, Power Plant - Part III
Identification Code: CNATT-N174 PAT
Contains information on the constant speed drive unit, the fire detection system, the cowling system, the engine starter, the propeller system and components, the propeller feathering system, the oil servicing provisions, the fuel servicing provisions, the CSD servicing provisions, a quick engine change, the chip detector, and some safety precautions to observe when working around aircraft.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	55
	Low score	75
	High score	100
	Percentage who scored 90% or higher	98

Developer: NAMTRAGRU, NAS, MEMPHIS

AIRCRAFT ENGINES

Power Plants and Accessories
Identification Code: CNABT-P-593X PAT
The types and nomenclature of aircraft engines, including systems and servicing.
Prepared for: Naval Aviation School Command
Type of Program: Linear
Average Time Required: 9-11 hours
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

AIRCRAFT HANDLING

Aircraft and Boat Crane
Identification Code: None. Use title.
Covers nomenclature, controls, responsibilities of the operator, upkeep, operating procedures, signals used during operation, safety precautions, and the automatic braking system.
Prepared for: Aviation Boatswain's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 13 minutes

Validation Data:	Number of learners tested	63
	Low score	70
	High score	100
	Percentage who scored 94% or higher	90

Developer: NATTC, NAS, LAKEHURST

Aircraft Ground Handling Equipment
Identification Code: None. Use title.
Covers many types of aircraft ground handling equipment and the safety precautions to be observed in their use. It covers tow tractors, tow bars, portable and mobile auxiliary power units, special vehicles (fork lift, follow me, and Baker industrial truck), air compressors, maintenance platforms, hydraulic jacks, maintenance dollies, proper colors and flags displayed when operating in runway areas, and the card system of inspection requirements for aircraft ground handling equipment.
Prepared for: "P" Phase students
Type of Program: Linear-Branching
Average Time Required: 2 hours

Validation Data:	Number of learners tested	61
	Low score	87
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

Aircraft Handling
Identification Code: CNATT-P-5189 PAT
Covers the fundamentals of aircraft handling ashore and afloat. It begins with the three methods of handling aircraft; then covers plane-handling equipmdnt, methods of spotting aircraft ashore and afloat, duties of the plane captain, safety precautions involved in aircraft handling, types and numbers of tiedowns used, and whistle signals.
Prepared for: Class A School students
Type of Program: Linear
Average Time Required: 1 hour and 26 minutes

Validation Data:	Number of learners tested	62
	Low score	85
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, LAKEHURST

Aircraft Tow Tractors
Identification Code: None. Use title.
Covers various tow tractors used aboard ship and ashore. It covers towing capacities, engine and transmission types and various precautions to be observed when operating tow tractors.
Prepared for: Aviation Boatswain's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 4 minutes

Validation Data:	Number of learners tested	51
	Low score	78
	High score	100
	Percentage who scored 85% or higher	90

Developer: NATTC, NAS, LAKEHURST

AIRCRAFT HANDLING

MD-1 Aircraft Tow Tractor

Identification Code: None. Use title.
Covers nomenclature and operation of the MD-1 tow tractor.
Prepared for: Aviation Boatswain's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 58 minutes

Validation Data:	Number of learners tested	64
	Low score	77
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

MD-3 Aircraft Tow Tractor

Identification Code: None. Use title.
Covers nomenclature, operation, and safety precautions involved with the MD-3 tow tractor.
Prepared for: Aviation Boatswain's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 55 minutes

Validation Data:	Number of learners tested	64
	Low score	85
	High score	100
	Percentage who scored 95% or higher	90

Developer: NATTC, NAS, LAKEHURST

Crash Fire Fighting

Identification Code: CNATT-L6 PAT
Covers the fundamentals of crash fire fighting ashore and afloat. It begins with the elements and classes of fire. The program also covers operation and use of portable hand fire extinquishers, fire fighting equipment and procedures afloat, fire fighting equipment and procedures ashore, and safety precautions.
Prepared for: Class A School students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	50
	Low score	78
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

Flight Deck Crew Identification

Identification Code: CNATT-P-5084 PAT
Explains the purpose of the different colored clothing worn during flight quarters. It shows all of the various clothing and markings worn by flight deck crews.
Prepared for: "P" Phase students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	60
	Low score	70
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

AIRCRAFT HANDLING

Taxi Signals
Identification Code: CNATT-P-5100 PAT
Covers the requirements for good taxi signals, positions of plane director when directing aircraft, position of safety men, and the device used at night to enable the pilot to see taxi signals. In this program, we go through a sequence of moving an aircraft using seventeen taxi signals. Also covered are some of the more important taxi signals.
Prepared for: "P" Phase students
Type of Program: Linear
Average Time Required: 1 hour and 10 minutes

Validation Data:	Number of learners tested	50
	Low score	85
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

AIRCRAFT MAINTENANCE MANAGEMENT

Individual Material Readiness List (IMRL)
Identification Code: N557
Gives explanations for each column of the IMRL. The use of the cross reference is given along with the purpose of asset reports and transaction cards. It generally acquaints the students with the purpose and uses of the IMRL.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 35 minutes

Validation Data:	Number of learners tested	61
	Low score	72
	High score	100
	Percentage who scored 90% or higher	92

Developer: NAMTRAGRU, NAS, MEMPHIS

AIRCRAFT PRESERVATION

Operating Aircraft Preservation
Identification Code: N533
Covers the various types of preservatives that are used to protect operating aircraft from corrosion, and the various locations on the aircraft where these preservatives are applied.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 20 minutes

Validation Data:	Number of learners	43
	Low score	80
	High score	100
	Percentage who scored 90% or higher	95

Developer: NAMTRAGRU, NAS, MEMPHIS

AIRCRAFT RECOGNITION

Military Aircraft Designations
Identification Code: CNATT-M305 PAT
Designations of the most common Navy aircraft. Also covers series letters, serial numbers, and the sequencing of design numbers.
Prepared for: AFUN "P" students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	50
	Low score	65
	High score	100
	Percentage who scored 90% or higher	97

Developer: NATTC, NAS, MEMPHIS

AIRCRAFT SYSTEMS

F-4B 40KVA Electrical Power Supply System
Identification Code: N495
Teaches the students the correct procedures for applying power to the F-4B aircraft, the functions of components within the system, the location of components, and the safety precaution to be observed when using the power supply system.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 29 minutes

Validation Data:	Number of learners tested	55
	Low score	72
	High score	100
	Percentage who scored 90% or higher	96.37

Developer: NAMTRAGRU, NAS, MEMPHIS

AIRMAN FUNDAMENTALS

Introduction to Aircraft
Identification Code: CNATT-P-5046 PAT
Covers location of principal structural units for fixed- and rotary-wing aircraft and construction and purpose of structural units. Provides a basic understanding of control systems.
Prepared for: Class A School students
Type of Program: Linear-Branching-Adjunct
Average Time Required: 1 hour and 55 minutes

Validation Data:	Number of learners tested	81
	Low score	86
	High score	100
	Percentage who scored 90% or higher	91.71

Developer: NATTC, NAS, JACKSONVILLE

AIRMAN FUNDAMENTALS

Aircraft Carriers and Seaplane Tenders
Identification Code: CNATT-P-5133 PAT
Some history of carriers, how they are designated, how some of the departments operate, and general information that will give the trainee an idea of what to expect if he is assigned to a carrier.
Prepared for: Class A School students
Type of Program: Linear-Branching-Adjunct
Average Time Required: 1 hour and 20 minutes

Validation Data:	Number of learners tested	86
	Low score	82.5
	High score	100
	Percentage who scored 90% or higher	97.6

Developer: NATTC, NAS, JACKSONVILLE

Aircraft and Squadron Designations and Missions
Identification Code: CNATT-P-5091 PAT
Provides an understanding of the types of aircraft and squadrons, and how they are designated. Also provides an understanding of how you can determine the mission from these designations.
Prepared for: Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 1 hour and 55 minutes

Validation Data:	Number of learners tested	104
	Low score	82
	High score	100
	Percentage who scored 90% or higher	91.33

Developer: NATTC, NAS, JACKSONVILLE

Aviation Enlisted Ratings
Identification Code: CNATT-P-5001
Provides an understanding of the aviation rates and their duties
Prepared for: Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 1 hour and 5 minutes

Validation Data:	Number of learners tested	73
	Low score	80
	High score	100
	Percentage who scored 90% or higher	91.86

Developer: NATTC, NAS, JACKSONVILLE

Common Aviation Handtools
Identification Code: CNATT-P-5000
Describes the purpose, proper use, and safety involved with handtools used around aircraft.
Prepared for: Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 1 hour and 25 minutes

Validation Data:	Number of learners tested	80
	Low score	81
	High score	100
	Percentage who scored 90% or higher	94.45

Developer: NATTC, NAS, JACKSONVILLE

AIRMAN FUNDAMENTALS

Theory of Flight
Identification Code: CNATT-P-5059 (Rev. 11-66 PAT)
Provides an understanding of the forces that act on an aircraft and the principles involved for sustained flight.
Prepared for: Class A School students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 40 minutes

Validation Data:	Number of learners tested	77
	Low score	82
	High score	100
	Percentage who scored 90% or higher	90.77

Developer: NATTC, NAS, JACKSONVILLE

AMPHIBIOUS OPERATIONS

Air Movement Planning
Identification Code: E-703
Program consists of 20 frames designed to teach the students to plan for an execute plans for air movement. The program, although slanted to administrative moves by C-124 and C-135 aircraft, contains techniques and procedures that are applicable as guidance in planning any type of administrative move via any type of air cargo/troup carrier. (Could be utilized by any unit involved in air movement planning whether by commercial or military aircraft. Program is not designed to teach cargomasters, loadmaster or crew chiefs weights and balances and/or tie down within the aircraft.)
Prepared for: Enlisted students of Embarkation Courses
Type of Program: Linear
Average Time Required: 6 hours
Validation Data: Not available
Developer: LANFORTRACOMLANT, NAVPHIBASE, LITTLE CREEK

Concept of Amphibious Operations
Identification Code: H-611-07
Teaches the concept of amphibious operations including advantages, disadvantages, characteristics, types and phases of amphibious operations.
Prepared for: Officer students.
Type of Program: Linear/Loop
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	85
	Low score	72
	High score	180
	Percentage who scored 90% or higher	92

Developer: NAVPHIBSCOL, CORONADO

AMPHIBIOUS OPERATIONS

Broken Stowage and Understow
Identification Code: E-702
Consists of 18 frames designed to introduce the student to the concept of space/cargo as used in combat loading amphibious ships for the amphibious assault. It continues beyond this concept and cover the planning and drawing of the representation of bult cargo understowed in the Tank Deck of an LST. (Program has no particular applicability to anyone not charged with the task of combat loading amphibious ships.)
Prepared for: Enlisted students of Embarkation Courses
Type of Program: Linear
Average Time Required: 30 minutes

Validation Data:	Number of learners tested	300
	Low score	40
	High score	100
	Percentage who scored 90% or higher	83

Developer: LANFORTRACOMLANT, NAVPHIBASE, LITTLE CREEK

Embarkation Mathematics
Identification Code: E-704
Consists of 143 frames designed to give the student a comprehensive review of arithmetic applicable to embarkation. (This program is not for use for teaching arithmetic to any students who are not involved in embarkation for amphibious operations.)
Prepared for: Enlisted students of Embarkation Courses
Type of Program: Linear
Average Time Required: 2 hours and 30 minutes

Validation Data:	Number of learners tested	400
	Low score	60
	High score	100
	Percentage who scored 90% or higher	85

Developer: LANFORTRACOMLANT, NAVPHIBASE, LITTLE CREEK

MEDS
Identification Code: E-705
Consists of 57 frames designed to teach students how to prepare the worksheets used by key punch operators in preparing EAM cards that make up the basic data base for the mechanized embarkation data system.
Prepared for: Officer/Enlisted students of Embarkation Courses
Type of Program: Linear
Average Time Required: 6 hours

Validation Data:	Number of learners tested	500
	Low score	60
	High score	100
	Percentage who scored 90% or higher	85

Developer: LANFORTRACOMLANT, NAVPHIBASE, LITTLE CREEK

AMPHIBIOUS OPERATIONS

Serials for the Landing Force
Identification Code: E-701
Consists of 55 frames designed to introduce the students to serials and their use in the amphibious operation. Beginning with a definition and complete understanding of what a serial is, and continuing to a student performance of allocating and assigning serials to elements of the Landing Force, the program directs the students to the identification of the landing categories of the ship-to-shore movement. Finally, the students, using a Landing Plan for an amphibious operation, actually list the serials to be embarked in their assigned ship in the order that they will be debarked for participation in the amphibious assault.
Prepared for: Enlisted students of Embarkation Courses
Type of Program: Linear
Average Time Required: 2 hours

Validation Data:	Number of learners tested	300
	Low score	55
	High score	100
	Percentage who scored 90% or higher	85

Developer: LANFORTRACOMLANT, NAVPHIBASE, LITTLE CREEK

ANTI-SUBMARINE WARFARE

ASW Plotting Symbols for the DRT
Identification Code: None. Use title.
Designed to provide on-the-job instruction for shipboard personnel in the use of ASW plotting symbols. It consists of two parts: (1) Programmed course for ASW plotting symbols for the DRT; (2) Self-contained test sheets. Upon completion of this program, trainees will be able to identify by name and configuration those symbols necessary for plotting ASW attacks on the DRT.
Prepared for: Radarman aboard ship
Type of Program: Linear
Average Time Required: 1 hour and 35 minutes

Validation Data:	Number of learners tested	144
	Low score	2.9
	High score	4.0
	Percentage who scored 90% or higher	69

Developer: FAAWTC, DAM NECK

The Bathythermograph, A Programmed Learning Course
Identification Code: None. Use title.
Conventional BT: Components of temperature and pressure assemblies, temperature ranges, maximum depths and speeds, cable required, inspections, maintenance and slide labeling. Expendable BT: Eight basic parts, temperature range, speeds and depths. Preparation of logs and radio messages.
Prepared for: Fleet Officers and Enlisted
Type of Program: Linear
Average Time Required: 3-4 hours
Validation Data: Not available
Developer: FTC, NEWPORT

ANTI-SUBMARINE WARFARE

The Conventional Bathythermograph; Expendable BT; Log Completion and Trace Interpretation
Identification Code: None. Use title.
The operation and maintenance of the conventional and expendable bathythermograph. Trace interpretation and reporting procedures.
Prepared for: General non-rated
Type of Program: Linear
Average Time Required: 4 hours and 13 minutes

Validation Data:	Number of learners tested	21
	Low score	88
	High score	100
	Percentage who scored 90% or higher	95

Developer: FTC, NEWPORT

Evasive Steering (A CONFIDENTIAL Program)
Identification Code: FAAWTC SD PI-05A
Focuses upon two basic techniques of submarine and torpedo evasion, zigzagging, and emergency turns. Also covers simuating and weaving briefly. Covers evasion of the torpedo attacks.
Prepared for: CIC Watch Officer students, CIC Team Training
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	256
	Low score	56
	High score	100
	Percentage who scored 90% or higher	70

Developer: FAAWTC, SAN DIEGO

Navol Surveillance on Mk 25 Mod 4 and 5 Indicator Panel
Identification Code: NAVPERS 93738-2
Covers front panel operating procedures utilizing either the Mk 25 Mod 4 or 5 Indicator Panel connected to a Mk 16 Mod 8 torpedo. Computations relating to the decomposition rate of Navol are charted on Surveillance Charts in accordance with procedures in OP 2744.
Prepared for: TMA (Sub) Class A, Mk 16 Mod 8 Torpedo Class C School students
Type of Program: Linear (with Panels)
Average Time Required: 30 minutes

Validation Data:	Number of learners tested	25
	Low score	0(Pre-test=0, Pre-test mean=15)
	High score	100(Post-test=100,Post-test mean=94.6)
	Percentage who scored 90% or higher	88

Statement of objectives are included in program.
Developer: BUPERS (PERS-C13)

The Air-Launched Mk 44 and Mk 46 ASW Torpedoes (A CONFIDENTIAL Program)
Identification Code: FAETUPAC PUB #3360-5
Covers the design and operation of the air-launched Mk 44 and Mk 46 ASW Torpedoes. A detailed comparison of the performance characteristics of the two weapons, aircraft launching data computations for the delivery pilot/TACCO, and other employment considerations such as safe stand-off distances for friendly forces and sources of possible weapon interference are also included. The material is written for the ASW aircrews that would be delivering such weapons and not for AUW shop technicians.
Prepared for: ASW Tactics Course students
Type of Program: Linear
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	92
	Low score	86
	High score	100
	Percentage who scored 90% or higher	97.8

Developer: FAETUPAC, NAS, NORTH ISLAND

ANTI-SUBMARINE WARFARE

Flow of Air, Fuel and Water in the Mk 14 Mod 5 Torpedo
Identification Code: NAVPERS 93738-1
Oriented to and utilizes terminology concerning the flow of air, fuel, and water in the propulsion system of the Mk 14 Mod 5 Torpedo. It is a substitution for certain discussion points in the Mk 14 Mod 5, Maintenance Course I/G (NAVPERS 93738) and the Torpedoman's Mate Class "A" Submarine Course I/G (NAVPERS 92641B). It is recommended that the trainee study Chapters 2 and 4 of NAVWEPS OP 2059 (First Revision) prior to commencing the program.
Prepared for: Mk 14 Mod 5 Torpedo Class C, TMS (Sub) School students
Type of Program: Linear-Branching-Mathetics
Average Time Required: 1 hour

Validation Data:	Number of learners tested	76
	Low score	25
	High score	100
	Percentage who scored 90% or higher	91

Statement of objectives are included in program.
Developer: BUPERS (PERS-C13)

AVIATION

Aircraft Carriers
Identification Code: CNATT-N215 PAT
Contains general information intended to give the student a basic knowledge of aircraft carriers. Program covers some of the history of carriers, types of carriers, missions, air department divisions, and some shipboard safety precautions peculiar to aircraft carriers.
Prepared for: NAMTRADETS students
Type of Program: Linear-Branching
Average Time Required: 1 hour

Validation Data:	Number of learners tested	56
	Low score	92
	High score	100
	Percentage who scored 90% or higher	100

Developer: NAMTRAGRU, NAS, MEMPHIS

Bernoulli's Principle
Identification Code: CNABT-P-637X PAT
Equation of continuity as applied to fluid flow; fluid flow energy in terms of pressure by identifying the relationship between pressure and energy.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 14-16 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

AVIATION

T-2A Canopy Operation
Identification Code: CNABT-P-590X PAT
Upon completion, the students should be able to: (1) Locate controls; (2) Recognize a complete working description of the three methods of operating the canopy; (3) Describe the function of the canopy warning lights; and (4) Recognize the maximum speed for opening and closing the canopy.
Prepared for: Students in Basic Jet Phase
Type of Program: Linear
Average Time Required: 15 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Slope
Identification Code: CNABT-P-613 PAT
What slope is and how to solve slope problems.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 8 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

S-2D/E Systems Familiarization, Airframes
Identification Code: CNATT-N-361 PAT
Contains information on the S-2D/E aircraft which is designed to familiarize maintenance personnel with the airframes. Program covers such areas as the compartments, equipment, consoles, panels, switches, warning lights, wings, engine nacelles, and tail section.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 1 hour and 41 minutes
Validation Data:

Number of learners tested	102
Low score	72
High score	100
Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

Teletype Aviation Weather Reports
Identification Code: CNABT-P-760X PAT
Includes the format and symbols used in the teletype aviation weather report.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 50 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

AVIATION FUELS

Aviation Fuels and Oils

Identification Code: CNATT-L3 PAT

Contains the different types and uses of the aviation fuels and oils. It lists the three major types of refueling equipment and the requirements for the proper refueling and defueling of aircraft. Safety precautions are also covered, personal and operational.

Prepared for: A/C Schools students

Type of Program: Linear

Average Time Required: 33 minutes

Validation Data:	Number of learners tested	80
	Low score	60
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, LAKEHURST

Aviation Gasolines and Jet Fuels

Identification Code: CNATT-L12 PAT

Covers the colors, uses, and characteristics of aviation gasoline. It also covers stowage, handling, and health hazards involved. The two jet fuels are listed with advantages, disadvantages, property requirements, and NATO symbols for jet fuels and aviation gasoline.

Prepared for: AB A School students

Type of Program: Linear

Average Time Required: 40 minutes

Validation Data:	Number of learners tested	50
	Low score	82
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, LAKEHURST

Fuel Farms and Fuel Depots

Identification Code: None. Use title.

Covers considerations involved when selecting a site for a fuel depot, types of storage tanks and storage tank layouts, types of transfer systems used with fuel storage, receiving and issuing facilities, equipment found at fuel depots, loading racks and filling stands, maintenance inspection requirements accomplished prior to fueling operations, health hazards present when handling gasoline, and safety precautions to be observed when handling gasoline.

Prepared for: Aviation Boatswain's Mate School, Class A, students

Type of Program: Linear

Average Time Required: 1 hour and 35 minutes

Validation Data:	Number of learners tested	59
	Low score	63
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

Lubricating Oils

Identification Code: CNATT-L35 PAT

Covers the primary and secondary uses of lubricating oils, the properties of lubricating oils, the two types of lubricating oils, additives found in lubricating oils, characteristics of lubricating oils, and the make-up of military symbols.

Prepared for: Aviation Boatswain's Mate School, Class A, students

Type of Program: Linear

Average Time Required: 46 minutes

Validation Data:	Number of learners tested	59
	Low score	73
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

AVIATION FUELS

Tank Gaging Devices
Identification Code: None. Use title
Covers the types and uses of the various gaging equipment. It also covers the different types of tank gaging and the safety precautions used.
Prepared for: Aviation Boatswain's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	62
	Low score	70
	High score	100
	Percentage who scored 92% or higher	90

Developer: NATTC, NAS, LAKEHURST

BINARY NUMBERS SYSTEMS

Binary Numbers System
Identification Code: CNABT-P-595X PAT
Cover the ways that binary numbers may be represented in computers and systems for converting numbers from the decimal system to the binary system and back to decimals.
Prepared for: Basic Naval Aviation Officers School students
Type of Program: Linear-Branching
Average Time Required: 20 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

BLUEPRINT READING

Blueprint Reading
Identification Code: CNATT-L10 PAT
Covers basic blueprint reading. It covers the differences in prints, types of prints, five rules for getting the best results from prints, print views, lines used on prints, location of title block, contents of title block and location of the revision block.
Prepared for: AB A School students
Type of Program: Linear
Average Time Required: 1 hour and 35 minutes

Validation Data:	Number of learners tested	50
	Low score	58
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, LAKEHURST

BOILER

Boiler Fittings and Instruments
Identification Code: None. Use title.
Identifies the internal and external fittings of a typical boiler plant, giving their location, construction, function, and operation. It explains the various boiler instruments and their uses, giving their location and function.
Prepared for: Class A School students
Type of Program: Discrimination
Average Time Required: 1 hour

Validation Data:	Number of learners tested	60
	Low score	72
	High score	100
	Percentage who scored 90% or higher	85

Developer: BUPERS (PERS-C21)

Boiler Types and Components
Identification Code: None. Use title.
Identifies the types of boilers given one of the following: ship types, operating pressure, shape of the boiler proper, or control of superheat temperature. It describes the components of a typical boiler plant giving their location, construction, function, and operation.
Prepared for: Class A School students
Type of Program: Discrimination
Average Time Required: 2 hours

Validation Data:	Number of learners tested	60
	Low score	74
	High score	100
	Percentage who scored 90% or higher	85

Developer: BUPERS (PERS-C21)

CATAPULTS AND ARRESTING GEAR

Introduction to Mk 7 Arresting Gear

Identification Code: None. Use title.

Provides a general breakdown of engine and components. Provides general information of arrangement of the arresting gear.

Prepared for: AB A School students

Type of Program: Linear

Average Time Required: 37 minutes

Validation Data:	Number of learners tested	67
	Low score	90
	High score	100
	Percentage who scored 90% or higher	100

Developer: NATTC, NAS, LAKEHURST

Catapults and Arresting Gear

Identification Code: None. Use title.

Provides an understanding of all necessary publications, records and reports needed for proper operation, safety, maintenance, and quality control of all equipment and personnel involved with operation of catapults.

Prepared for: ABE "A" School students

Type of Program: Linear

Average Time Required: 29 minutes

Validation Data:	Number of learners tested	63
	Low score	88
	High score	100
	Percentage who scored 90% or higher	97

Developer: NATTC, NAS, LAKEHURST

Electrical Devices for Catapults and Arresting Gear

Identification Code: None. Use title.

Covers nomenclature, description, and operation of electrical devices used in catapults and arresting gear.

Prepared for: Aviation Boatswain's Mate School, Class A, students

Type of Program: Linear

Average Time Required: 37 minutes

Validation Data:	Number of learners tested	54
	Low score	90
	High score	100
	Percentage who scored 95% or higher	90

Developer: NATTC, NAS, LAKEHURST

Catapult Hydraulics and Seals

Identification Code: None. Use title.

Provides an understanding of the principles of hydraulics in relation to the operation of catapults. Provides a basis of understanding various types of packings and seals.

Prepared for: Aviation Boatswain's Mate School, Class A, students

Type of Program: Linear

Average Time Required: 1 hour and 15 minutes

Validation Data:	Number of learners tested	59
	Low score	86
	High score	100
	Percentage who scored 94% or higher	90

Developer: NATTC, NAS, LAKEHURST

CATAPULTS AND ARRESTING GEAR

Deadweight Gauge Tester
Identification Code: None. Use title.
Covers the purpose, construction, and operation of the deadweight gauge tester.
Prepared for: Aviation Boatswain's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 27 minutes

Validation Data:	Number of learners tested	54
	Low score	90
	High score	100
	Percentage who scored 95% or higher	90

Developer: NATTC, NAS, LAKEHURST

Launching Signals and Crew Organization
Identification Code: None. Use title.
Provides an understanding regarding standard signals used aboard ship for launching operations. Provides a basis for understanding the number of personnel required and the recommended rate for various control stations.
Prepared for: AB A School students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	63
	Low score	80
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, LAKEHURST

CIC PROCEDURES

Display Methods in Anti-Air Warfare (A CONFIDENTIAL Program)
Identification Code: FAAWTC SDiego PI-06
Procedures for converting latitude/longitude to GEOREF, Polar Coordinates to GEOREF or to Cartesian Coordinates. Also covers determination of altitude, geometrical shape and dimensions of any area delineated in a GEOREF report.
Prepared for: CIC Watch Officer students
Type of Program: Linear-Text
Average Time Required: 1 hour

Validation Data:	Number of learners tested	222
	Low score	78
	High score	100
	Percentage who scored 90% or higher	82

Developer: FAAWTC, SAN DIEGO

Three Minute Rule
Identification Code: FAAWTC SDiego PI-3
Program teaches student to solve speed, distance and time problems using the Three Minute Rule.
Prepared for: CIC Team Training and Basic CIC Techniques (Enlisted)
Type of Program: Linear-Text
Average Time Required: 24 minutes

Validation Data:	Number of learners tested	107
	Low score	20
	High score	100
	Percentage who scored 90% or higher	70

Developer: FAAWTC, SAN DIEGO

COMMUNICATIONS

Air Intercept Control Communications (A CONFIDENTIAL Program)
Identification Code: FAAWTC PI-012
Radio communication procedures and standard messages between air intercept controllers and interceptor pilots.
Prepared for: Naval officer and enlisted air intercept control students
Type of Program: Linear-Loop
Average Time Required: 1 hour and 4 minutes
Validation Data:

Number of learners tested	43
Low score	74
High score	100
Percentage who scored 90% or higher	70

Developer: FAAWTC, SAN DIEGO

AN Nomenclature System, Advanced Developments
Identification Code: CNABT-P-629X PAT
AN nomenclature system, the language that members of the Navy use to identify electronic equipment.
Prepared for: Basic Naval Aviation Officers School students
Type of Program: Linear
Average Time Required: 1 hour
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Calibration and Tuning the AN/PRC-8, 9, and 10
Identification Code: C-102
Teaches the characteristics of employment, calibration, tuning and technical characteristics of the AN/PRC-8, 9 and 10 radios. Upon satisfactory completion of this program, the student will be able to calibrate and tune the AN/PRC-8, 9 and 10.
Prepared for: Communication students
Type of Program: Linear
Average Time Required: 1 hour
Validation Data: Not available
Statement of objectives are not available from the developer.
Developer: LANFORTRACOMLANT, NAVPHIBASE, LITTLE CREEK

AN/PRC 8, 9, & 10 (Tuning and Calibration)
Identification Code: NAVPHIBSCOL 1-2
The program is divided into two sections. The first is devoted to teaching the students to associate the control with its use. This is accomplished through associating a statement and an illustration with a control, the control being in various positions. Then a 16mm film on calibrating and tuning is shown. The students then individually or in teams calibrate and tune the AN/PRC 8, 9, or 10. Their work is checked by an instructor.
Prepared for: Functional Training, E3 through O4
Type of Program: Linear
Average Time Required: 1 hour
Validation Data: Not available
Developer: NAVPHIBSCOL, NAVPHIBASE, LITTLE CREEK

COMMUNICATIONS

AN/PRC-25
Identification Code: C-103
Program teaches characteristics, component parts, capabilities, limitations, operation and tuning of the AN/PRC-25. Student will learn how to assemble, tune, preset channels, and secure the set.
Prepared for: Marines (Enlisted/Officer)
Type of Program: Linear
Average Time Required: 1 hour and 10 minutes
Validation Data: Not available
Developer: LANFORTRACOMLANT, NAVPHIBASE, LITTLE CREEK

ATP-1, Vol. 2, Signal Book
Identification Code: PRA SD
Training in use of ATP-1 for the decoding and encoding of tactical and administrative signal (Note - Tape programs requiring use of audio note book - 22 channel. Hardware and software not available for loan.)
Prepared for: CIC Watch Officers and team training
Type of Program: Linear with loop
Average Time Required: 2 hours and 8 minutes

Validation Data:	Number of learners tested	157
	Low score	46
	High score	100
	Percentage who scored 90% or higher	65

Developer: FAAWTC, SAN DIEGO

Call-Sign and Address Group Publications
Identification Code: None. Use title.
Designed for the RM A School curriculum; however, it can be adapted for use in Shipboard Training Programs and Reserve Training Centers. Deals with call-sign/address group publications and covers the definitions of basic terms associated with these publications. The use of publications is also covered; this includes identifying any call-sign or address group with the correct publication and finding its meaning, or associating a plain language designator with the correct publication to find the call-sign or address group.
Prepared for: Class A School/ResTraCen's/OJT students
Type of Program: Linear-Branching
Average Time Required: 40 minutes
Validation Data: Not available
Developer: BUPERS (PERS-C22)

The Navy Directive
Identification Code: CNABT-P-600 PAT
Purpose and use of the Navy Directive System. The two types of Navy and Marine Corps directives and the differences in their uses. The seven basic groups of a Navy directive. Indicate the correct and incorrect wordage, punctuation, etc., in sample format groups.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 36 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

COMMUNICATIONS

The Navy Directives System
Identification Code: CNABT-P-591X PAT
The five sources of naval law. The definition, purpose, and types of the Navy Directive System. The parts of a directive and the proper procedure for filing a directive.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 37 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

The Navy Directive System
Identification Code: CNABT-P-628 PAT
What the Navy Directive System is, required and optional exceptions to the system, types of directives and the format of each, numbering of directives and sequence of paragraphs, and how to amend instructions and to cite instructions and notices.
Prepared for: Basic Naval Aviation Officers School students
Type of Program: Linear
Average Time Required: 17 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Naval Message Drafting
Identification Code: NAVPHIBSCOL LCREEK 1-3
Covers addresses, classification, references, procedures, and very briefly the body of the text. It is meant only to give a short overview of message drafting.
Prepared for: NAVPHIBSCOL students, E4 through 03
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	125
	Low score	85
	High score	100
	Percentage who scored 80% or higher	94

Developer: NAVPHIBSCOL, NAVPHIBASE, LITTLE CREEK

Message Drafting
Identification Code: C-101
Correct format and terminology of Naval Messages. Covers message drafting procedures in regard to the drafter, originator, releaser, and classification and format. Upon completing this program satisfactorily, the student will be able to draft a military message correctly.
Prepared for: Communication students
Type of Program: Linear
Average Time Required: 1 hour and 30 Minutes
Validation Data: Not available
Statements of objectives are not available from the developer.
Developer: LANFORTRACOMLANT, NAVPHIBASE, LITTLE CREEK

Message Reading
Identification Code: CNABT-P-684X PAT
The basic elements of radiotelegraph and teletype messages, such as precedence and date-time group, originator, addressee, and text.
Prepared for: Basic Naval Aviation Officers School students
Type of Program: Linear
Average Time Required: 27 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

COMMUNICATIONS

Use of the Prosign $\overline{\text{IMI}}$
Identification Code: None. Use title.
Designed for the RM A School curriculum; however, it can be adapted for use in Shipboard Training Programs and Reserve Training Centers. Deals with the use of the repeat prosign $\overline{\text{IMI}}$ both for asking and answering repetition in plain language and encrypted messages.
Prepared for: T/E Class A School students
Type of Program: Linear-Branching
Average Time Required: Time not given
Validation Data: Not available
Developer: BUPERS (Pers-C22)

Technical Characteristics of Transceivers
Identification Code: NAVPHIBSCOL 1-1
Designed to teach the frequency range, modulation, power source, and transmission range of the AN/PRC-6, AN/PRC-10, AN/PRC-9 and AN/PRC-41.
Prepared for: Functional Training, E2 though 04
Type of Program: Linear
Average Time Required: 30 minutes

Validation Data:	Number of learners tested	150
	Low score	52
	High score	100
	Percentage who scored 90% or higher	85

Developer: NAVPHIBSCOL, NAVPHIBASE, LITTLE CREEK

TRITON Authentication System (A CONFIDENTIAL Program)
Identification Code: FAAWTC SDiego PI-07
Procedures for TRITON authentication - challenge and reply transmission authentication.
Prepared for: CIC Watch Officer students
Type of Program: Linear-Text
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	240
	Low score	72
	High score	100
	Percentage who scored 90% or higher	78

Developer: FAAWTC, SAN DIEGO

COMPUTERS

U Rest Computer
Identification Code: None. Use title.
Consists of a description of the U Rest Computer and how to solve problems with it.
Prepared for: Jet Aviator students
Type of Program: Branching
Average Time Required: 50 minutes
Validation Data: Not available
Statements of objectives are not available from the developer.
Developer: NAS, KINGSVILLE

COMPUTER PROGRAMMING

Basic Digital Computer Programming Concepts and Programming and 6B4 Digital Computer Demonstrator
Identification Code: CNABT-P-675X PAT
The material to teach the student to program the 6B4 Digital Computer Demonstrator to solve simple equations.
Prepared for: Basic Naval Aviation Officer School students
Type of Program: Branching
Average Time Required: 36 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

CORRESPONDENCE

Introduction to Naval Correspondence
Identification Code: CNABT-P-599X PAT
Upon completion of the program, the student should be able to: Define official and official Naval correspondence. List the nine basic types of naval correspondence. Define official naval letter, official naval personal letter, endorsement, naval directive, and naval message.
Prepared for: Student Naval Aviators
Type of Program: Branching
Average Time Required: 1 hour and 14 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Downgrading and Declassifying Classified Materials
Identification Code: NAVPHIBSCOL 1-4
Includes statements and charts of entervals to downgrade and/or declassify documents plus categories of information that fall into Groups 1, 2, 3 or 4, in accordance with OPNAVINST 5500.40 Series.
Prepared for: Functional Training, E3 through 04
Type of Program: Linear
Average Time Required: 30 minutes

Validation Data:	Number of learners tested	200
	Low score	52
	High score	100
	Percentage who scored 90% or higher	93

Developer: NAVPHIBSCOL, NAVPHIBASE, LITTLE CREEK

The Format of a Naval Letter, NSCS 421-7
Identification Code: 6ND-NSCS-P49 (REV. 12/66)
Covers the mechanics of a naval letter. It deals primarily with the format of a naval letter.
Prepared for: NSCS Officer students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 30 minutes
Validation Data: Not available
Statements of objectives are not available from the developer.
Developer: NAVSCSCOL, ATHENS

CORRESPONDENCE

The Official Naval Letter
Identification Code: CNABT-P-598 PAT
The seven basic groups of the official naval letter format with component lines of the respective groups. Specific information about classified official naval letter formats and specific information about the component parts of the seven basic groups.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 31 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

The Official Naval Personal Letter and Endorsements
Identification Code: CNABT-P-612 PAT
Types of official naval personal letters and endorsements with related topics such as basic groups of naval personal letter and component parts of each group. Stresses the difference between same and separate page endorsements.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 55 minutes
Validation Data: Not Available
Developer: NABATRA, NAS, PENSACOLA

CORROSION CONTROL

Aircraft Corrosion Prone Areas
Identification Code: N561
Contains information concerning areas of aircraft which are susceptible to corrosion. The causes of the corrosion is discussed along with the preventative measures required to combat the corrosion.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 25 minutes

Validation Data:	Number of learners tested	51
	Low score	87
	High score	100
	Percentage who scored 90% or higher	95

Developer: NAMTRAGRU, NAS, MEMPHIS

Introduction to Corrosion Control
Identification Code: CNATT-N104 PAT (Revised)
The general classifications of corrosion, the causes of chemical and electrochemical corrosion, how to prevent corrosion, and other basic factors which affect corrosion. An explanation of the processes of electroplating, anodizing, and the chemical cell is given in order to develop a clearer understanding of electrochemical corrosion.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 55 minutes

Validation Data:	Number of learners tested	50
	Low score	62.5
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

DIGITAL FUNDAMENTALS

Digital Fundamentals - Numbering System, Part I
Identification Code: N469
Compares decimal, octal, quinary, and binary numbering systems. This program also gives the methods of converting from one numbering system to another.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 1 hour and 25 minutes

Validation Data:	Number of learners tested	56
	Low score	69
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAVTRAGRU, NAS, MEMPHIS

Digital Fundamentals - Numbering System, Part II
Identification Code: CNATT-N451
Covers converting common fractions to binary fractions, then reconverting from binary to common fractions, converting decimal fractions to binary fractions and then reconverting again, the method used to obtain the 10's complement of a decimal number, and how to obtain the 2's complement of a binary number.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 1 hour and 50 minutes

Validation Data:	Number of learners tested	56
	Low score	80
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

DISCIPLINE

The Code of Conduct
Identification Code: CNABT-P-564 PAT
The when and why of the Code for the fighting man and for those who might be captured. Discusses how the Code related to the American tradition. Gives the purpose of the Geneva Convention.
Prepared for: All personnel in Basic Training Command
Type of Program: Linear
Average Time Required: 26 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Discipline
Identification Code: CNABT-P-579X PAT
To show why discipline is necessary. To stress the sources of effective discipline. To show why self-discipline is preferable to discipline from external sources.
Prepared for: All personnel in Training Command
Type of Program: Linear
Average Time Required: 23 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

DIVING

Diving
Identification Code: H-611-08
Teaches roles of physics as they apply to the diver, including low pressure, temperature, partial pressure, soluability and archimedes principles. The student is taught to solve problems using these principles and theories.
Prepared for: UDT students, E3 through LTJG
Type of Program: Linear
Average Time Required: 2 hours and 15 minutes

Validation Data:	Number of learners tested	48
	Low score	70
	High score	100
	Percentage who scored 90% or higher	92

Developer: NAVPHIBSCOL, CORONADO

DYSBARISM

Dysbarism
Identification Code: CNABT-P-627X PAT
Presents the causes, effects, and treatment of such problems as gas expansion in the GI tract; ear difficulties; sinus problems; toothache; chokes; bends; paresthesia; and central nervous system dysbarism.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 41 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

ELECTRICITY

A.C. Circuit Power Characteristics
Identification Code: CNATT-J-107 PAT
Covers the definition of power. The phase relationships of current, voltage, and power in purely resistive, inductive, and capacitive circuits. Covers the phase relationships of current, voltage, and power in resistive-inductive and resistive-capacitive circuits. Covers the definition of apparent power, true power, and power factor and how to compute the value of each.
Prepared for: Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 1 hour and 55 minutes

Validation Data:	Number of learners tested	73
	Low score	80
	High score	100
	Percentage who scored 90% or higher	91.78

Developer: NATTC, NAS, JACKSONVILLE

Single-Phase A.C. Generator
Identification Code: CNATT-J98-PAT
Covers the basic construction and operation of the single phase a-c generator.
Prepared for: Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	61
	Low score	82
	High score	100
	Percentage who scored 90% or higher	90.17

Developer: NATTC, NAS, JACKSONVILLE

The Basic Three-Phase A.C. Generator
Identification Code: None. Use title.
Teaches the basic definition, construction, and operation of a three-phase A.C. generator.
Prepared for: Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 1 hour and 17 minutes

Validation Data:	Number of learners tested	44
	Low score	62
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, JACKSONVILLE

A.C. Theory: Related Mathematics and the Generation of a Sine Wave
Identification Code: CNATT-J75 PAT
Angles and sides of a right triangle, and the use of the Pythagorean Theorem to solve for the unknown side of right triangles as a basis for solving problems involving alternating current. Use of fectors to express forces acting at some angle in relation to each other, and how these vectors may be represented by a right trangle. Trigonometric functions--sine, cosine, and tangent--are used to solve for unknown angles or vector quantities, and how a vector representing a rotating conductor in a generator field may be used to show the generation of a sine wave of voltage.
Prepared for: Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 3 hours and 30 minutes

Validation Data:	Number of learners tested	128
	Low score	67
	High score	100
	Percentage who scored 90% or higher	90.63

Developer: NATTC, NAS, JACKSONVILLE

ELECTRICITY

A.C. Theory: Sine-Wave Analysis and Combining of Voltages
Identification Code: CNATT-J74 PAT
Terms used to identify various quantities of a.c. voltage and current, and how these terms are applied to a sine wave. Solution for E_{avg}, E_{max}, E_{eff}, E_{pp}, and e. Combination of two sine waves of voltage, displaced by a given number of degrees, into a resultant waveform; and to add vectorially, two voltages displaced from each other by a given number of degrees.
Prepared for: Class A School students
Type of Program: Linear
Average Time Required: 2 hours and 25 minutes

Validation Data:	Number of learners tested	53
	Low score	67
	High score	100
	Percentage who scored 90% or higher	90.6

Developer: NATTC, NAS, JACKSONVILLE

Aircraft Electrical Conductors and Connectors
Identification Code: CNATT-J17 PAT
Provides an understanding of the purpose of conductors and connectors, what they are made of, and how they are used. Covers mil measurement and how to use it.
Prepared for: Class A School students
Type of Program: Linear-Branching-Adjunct
Average Time Required: 1 hour and 50 minutes

Validation Data:	Number of learners tested	76
	Low score	78
	High score	100
	Percentage who scored 90% or higher	94.5

Developer: NATTC, NAS, JACKSONVILLE

Aircraft Electrical Control and Protection Devices
Identification Code: CNATT-J87 PAT
Switches, relays, fuses, current limiters, and circuit breakers; also symbols for these devices.
Prepared for: Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 1 hour

Validation Data:	Number of learners tested	79
	Low score	79
	High score	100
	Percentage who scored 90% or higher	93.67

Developer: NATTC, NAS, JACKSONVILLE

Atomic Structure and Static Electricity
Identification Code: CNATT-P-4948 (Rev. 5-66) PAT
Definition and composition of matter. Atomic structure and definition of static electricity. Hazard of static electricity as applied to aviation.
Prepared for: AMFU A School students
Type of Program: Linear
Average Time Required: 1 hour and 56 minutes

Validation Data:	Number of learners tested	52
	Low score	65.2
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, MEMPHIS

ELECTRICITY

Basic Electricity, Matter, Lesson 1-2-1
Identification Code: CNATT-P-5068 PAT
Presents a very basic introduction to matter, atoms, molecules, elements and compounds. Presents in basic form the four parts of an atom, electrical balance, and the coulomb.
Prepared for: GCA Maintenance (Engineman) Course, Class C, students
Type of Program: Branching
Average Time Required: 1 hour and 20 minutes

Validation Data:		
	Number of learners tested	25
	Low score	70
	High score	100
	Percentage who scored 90% or higher	88

Developer: NATTC, NAS, GLYNCO

Basic Electricity Review, Part I, Matter
Identification Code: CNATT-M277 PAT
Defines and explains matter.
Prepared for: AD B, AM B School students
Type of Program: Linear
Average Time Required: 1 hour and 45 minutes

Validation Data:		
	Number of learners tested	57
	Low score	83
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, MEMPHIS

Basic Electricity Review, Part II, Atomic Structure
Identification Code: CNATT-M278 PAT
Explains the structure of the atom with particular emphasis on the electron.
Prepared for: AD B, AM B School students
Type of Program: Linear
Average Time Required: 1 hour and 15 minutes

Validation Data:		
	Number of learners tested	57
	Low score	90
	High score	100
	Percentage who scored 90% or higher	100

Developer: NATTC, NAS, MEMPHIS

Basic Electricity Review, Part III, Introduction to Electricity
Identification Code: CNATT-M279 PAT
Presents a brief review of basic electricity.
Prepared for: AD B, AM B School students
Type of Program: Linear
Average Time Required: 1 hour and 40 minutes

Validation Data:		
	Number of learners tested	57
	Low score	73
	High score	100
	Percentage who score 90% or higher	91

Developer: NATTC, NAS, MEMPHIS

ELECTRICITY

Basic Electricity Review, Part IV, Electrical Symbols
Identification Code: CNATT-M280 PAT
Recognition of the most common electrical symbols
Prepared for: AD B, AM B School students
Type of Program: Linear
Average Time Required: 1 hour and 20 minutes

Validation Data:		
	Number of learners tested	57
	Low score	92
	High score	100
	Percentage who scored 90% or higher	100

Developer: NATTC, NAS, MEMPHIS

Basic Electricity Review, Part V, Series Circuits
Identification Code: CNATT-M281 PAT
Explains the series circuit
Prepared for: AD B, AM B School students
Type of Program: Linear
Average Time Required: 1 hour and 45 minutes

Validation Data:		
	Number of learners tested	57
	Low score	78
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, MEMPHIS

Basic Electricity Review, Part VI, Parallel Circuits
Identification Code: CNATT-M282 PAT
Explains the parallel circuit
Prepared for: AD B, AM B School students
Type of Program: Linear
Average Time Required: 1 hour and 15 minutes

Validation Data:		
	Number of learners tested	57
	Low score	80
	High score	100
	Percentage who scored 90% or higher	95

Developer: NATTC, NAS, MEMPHIS

Basic Electricity Review, Part VII, Series-Parallel Circuits
Identification Code: CNATT-M283 PAT
Explains the series-parallel circuits.
Prepared for: AD B, AM B School students
Type of Program: Linear
Average Time Required: 1 hour and 50 minutes

Validation Data:		
	Number of learners tested	57
	Low score	80
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, MEMPHIS

ELECTRICITY

Basic Electricity Review, Part VIII, Batteries
Identification Code: CNATT-M284 PAT
Explains how a battery produces electricity.
Prepared for: AD B, AM B School students
Type of Program: Linear
Average Time Required: 1 hour
Validation Data: Number of learners tested 57
Low score 90
High score 100
Percentage who scored 90% or higher 100
Developer: NATTC, NAS, MEMPHIS

Basic Electricity Review, Part IX, Magnetism
Identification Code: CNATT-M285 PAT
Explain the basis of magnetism.
Prepared for: AD B, AM B School students
Type of Program: Linear
Average Time Required: 1 hour and 10 minutes
Validation Data: Number of learners tested 57
Low score 85
High score 100
Percentage who scored 90% or higher 95
Developer: NATTC, NAS, MEMPHIS

Basic Electricity Review, Part X, Electromagnetism and Electromagnetic Induction
Identification Code: CNATT-M286 PAT
Explains electromagnetism and electromagnetic induction and gives examples of their practical application.
Prepared for: AD B, AM B School students
Type of Program: Linear
Average Time Required: 1 hour and 32 minutes
Validation Data: Number of learners tested 57
Low score 88
High score 100
Percentage who scored 90% or higher 90
Developer: NATTC, NAS, MEMPHIS

Batteries
Identification Code: CNATT-P-5027 (Rev. 2-66) PAT
Definition of a cell and a battery. Instruments used to determine cell condition safety and precautions to be observed when working with batteries.
Prepared for: AMFU A School students
Type of Program: Linear
Average Time Required: 50 minutes
Validation Data: Number of learners tested 50
Low score 70
High score 100
Percentage who scored 90% or higher 90
Developer: NATTC, NAS, MEMPHIS

ELECTRICITY

Introduction to Cells and Batteries
Identification Code: CNATT-J27 PAT
Covers the characteristics of cells and batteries, what actions take place within them, safety, and some test equipment used for checking batteries.
Prepared for: Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 1 hour and 12 minutes

Validation Data:		
	Number of learners tested	76
	Low score	70
	High score	100
	Percentage who scored 90% or higher	92.11

Developer: NATTC, NAS, JACKSONVILLE

Conductors, Insulators, Resistors, and Color Code
Identification Code: CNATT-J33 PAT
Defines and identifies a conductor, an insulator, a resistor, and specific resistance. Lists four factors determining resistance. Uses the color code chart to find correct resistances and tolerances of a given list of resistors.
Prepared for: Class A and B Ordnance Schools students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 5 minutes

Validation Data:		
	Number of learners tested	95
	Low score	65
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, JACKSONVILLE

D.C. Carbon Pile Voltage Regulator
Identification Code: CNATT-J95 PAT
Covers principles and methods employed in voltage regulation of d-c generators. Covers the major parts, operation, and adjustment procedures of the d-c carbon pile voltage regulator.
Prepared for: Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 2 hours and 20 minutes

Validation Data:		
	Number of learners tested	71
	Low score	78
	High score	100
	Percentage who scored 90% or higher	92.96

Developer: NATTC, NAS, JACKSONVILLE

D.C. Circuits - Parallel Circuits
Identification Code: CNATT-J64 PAT
Covers Ohm's Law as it applies to parallel circuits and how to solve parallel circuit problems. Also covers Kirchhoff's Law of Current for Parallel Circuits.
Prepared for: Class A School students
Type of Program: Linear-Branching
Average Time Required: 2 hours and 20 minutes

Validation Data:		
	Number of learners tested	98
	Low score	80
	High score	100
	Percentage who scored 90% or higher	94.9

Developer: NATTC, NAS, JACKSONVILLE

ELECTRICITY

D.C. Circuits - Series Circuits - AEA
Identification Code: CNATT-P-5215 PAT
Covers Ohm's Law as it applies to series circuits and how to solve series circuit problems. Also covers Kirchhoff's Law of Voltage for Series Circuits.
Prepared for: Class A School students
Type of Program: Linear-Branching
Average Time Required: 2 hours and 40 minutes

Validation Data:	Number of learners tested	80
	Low score	84
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, JACKSONVILLE

D.C. Generators, Armature Reaction and Commutation
Identification Code: CNATT-J47 PAT
Defines armature reaction and commutation and their effects on the amount and polarity of the terminal voltage of a generator. Some methods of corrective actions taken to reduce generated voltage losses in the generator.
Prepared for: Aviation Electrician's Mate School, Class A, students
Type of Program: Linear-Adjunct
Average Time Required: 2 hours and 10 minutes

Validation Data:	Number of learners tested	88
	Low score	70
	High score	100
	Percentage who scored 90% or higher	96.59

Developer: NATTC, NAS, JACKSONVILLE

D.C. Generators, Basic Theory and Construction
Identification Code: CNATT-J42 PAT
Defines an electrical generator; covers generator parts and the purpose or characteristics of each part. Covers the theory of induced voltage and the factors that govern the amount and the polarity of the induced voltage.
Prepared for: Aviation Electrician's Mate School, Class A, students
Type of Program: Linear-Adjunct
Average Time Required: 2 hours

Validation Data:	Number of learners tested	88
	Low score	83
	High score	100
	Percentage who scored 90% or higher	95.45

Developer: NATTC, NAS, JACKSONVILLE

D.C. Generators, The Separately Excited Generator
Identification Code: CNATT-J45 PAT
The operating characteristics of the separately excited generator, how it is connected internally and externally, and some causes of power and voltage losses.
Prepared for: Aviation Electrician's Mate, Class A, students
Type of Program: Linear-Adjunct
Average Time Required: 1 hour and 50 minutes

Validation Data:	Number of learners tested	60
	Low score	86
	High score	100
	Percentage who scored 90% or higher	98.33

Developer: NATTC, NAS, JACKSONVILLE

ELECTRICITY

D.C. Generators, Series and Compound Generators

Identification Code: CNATT-J43 PAT

The operating characteristics of the series and compound generators and how they are connected internally and externally. The difference between long- and short-shunt compound generators. How the internal connections of compound generators determine whether it will operate as a cumulative or differential compound machine.

Prepared for: Aviation Electrician's Mate School, Class A, students

Type of Program: Linear-Adjunct

Average Time Required: 1 hour and 10 minutes

Validation Data:	Number of learners tested	88
	Low score	86
	High score	100
	Percentage who scordd 90% or higher	93.86

Developer: NATTC, NAS, JACKSONVILLE

D.C. Generators, The Shunt Generator

Identification Code: CNATT-J41 PAT

The operating characteristics of the shunt generator, how it is connected internally and externally, and the reasons why it is a desirable generator for use in aviation.

Prepared for: Aviation Electrician's Mate School, Class A, students

Type of Program: Linear-Adjunct

Average Time Required: 1 hour and 10 minutes

Validation Data:	Number of learners tested	88
	Low score	85
	High score	100
	Percentage who scored 90% or higher	94.32

Developer: NATTC, NAS, JACKSONVILLE

D.C. Meters - Ammeters and Voltmeters

Identification Code: CNATT-J32 PAT

Covers the characteristics of ammeters and voltmeters, how to connect them to a circuit, how to read indications on the scale, and safety.

Prepared for: Class A School students

Type of Program: Linear-Branching-Adjunct

Average Time Required: Ammeters, 50 minutes
Voltmeters, 1 hour and 30 minutes

Validation Data:		Ammeter	Voltmeters
	Number of learners tested	85	85
	Low score	90	86
	High score	100	100
	Percentage who scored 90% or higher	100	95.29

Developer: NATTC, NAS, JACKSONVILLE

D.C. Meters - The D'Arsonval Meter Movement and Meter Scales

Identification Code: CNATT-J31 PAT

Provides an understanding of the operating principle and characteristics of D'Arsonval meter movement. Also describes meter scales and their uses.

Prepared for: Class A School students

Type of Program: Linear-Adjunct

Average Time Required: 1 hour and 15 minutes

Validation Data:	Number of learners tested	85
	Low score	88
	High score	100
	Percentage who scored 90% or higher	98.82

Developer: NATTC, NAS, JACKSONVILLE

ELECTRICITY

D.C. Meters - Ohmmeters and Multimeters
Identification Code: CNATT-J34 PAT
Provides an understanding of the ohmmeter and multimeter components, their purpose, how the meters operate, how to use the meters safely, and how to read a complex meter scale.
Prepared for: Class A School students
Type of Program: Linear-Adjunct
Average Time Required: Ohmmeters, 52 minutes/Multimeters, 26 minutes
Validation Data:

Number of learners tested	85
Low score	88
High score	100
Percentage who scored 90% or higher	95.59 (Ohmmeters)
Percentage who scored 90% or higher	97.69 (Multimeters)

Developer: NATTC, NAS, JACKSONVILLE

D.C. Motors - Armature Reaction and Commutation
Identification Code: CNATT-J59 PAT
The effects of armature reaction in motors and the methods used to eliminate or neutralize the undesirable effects, to achieve optimum commutation.
Prepared for: Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 1 hour and 15 minutes
Validation Data:

Number of learners tested	90
Low score	74
High score	100
Percentage who scored 90% or higher	93.33

Developer: NATTC, NAS, JACKSONVILLE

D.C. Motors - Basic Theory and Construction
Identification Code: CNATT-J58 PAT
How a basic motor is constructed and the basics of motor action: the direction, speed, and torque.
Prepared for: Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 1 hour and 20 minutes
Validation Data:

Number of learners tested	62
Low score	65
High score	100
Percentage who scored 90% or higher	90.32

Developer: NATTC, NAS, JACKSONVILLE

D.C. Motors - The Compound Motor
Identification Code: CNATT-J66 PAT
Torque and operating characteristics of the compound motor.
Prepared for: Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 1 hour and 40 minutes
Validation Data:

Number of learners tested	66
Low score	86
High score	100
Percentage who scored 90% or higher	93.9

Developer: NATTC, NAS, JACKSONVILLE

ELECTRICITY

D.C. Motors - The Separately Excited Motor
Identification Code: CNATT-J60 PAT
Torque and operating characteristics of the separately excited motor.
Prepared for: Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 1 hour and 20 minutes

Validation Data:	Number of learners tested	89
	Low score	74
	High score	100
	Percentage who scored 90% or higher	94.38

Developer: NATTC, NAS, JACKSONVILLE

D.C. Motors - The Series Motor
Identification Code: CNATT-J62 PAT
Torque and operating characteristics of the series motor.
Prepared for: Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	89
	Low score	90
	High score	100
	Percentage who scored 90% or higher	100

Developer: NATTC, NAS, JACKSONVILLE

D.C. Motors - The Shunt Motor
Identification Code: CNATT-J61 PAT
Torque and operating characteristics of the shunt motor.
Prepared for: Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	89
	Low score	85
	High score	100
	Percentage who scored 90% or higher	98.87

Developer: NATTC, NAS, JACKSONVILLE

Diode Vacuumn Tubes AO
Identification Code: CNATT-J54 PAT
Diode vacuumn tubes; construction, how it is used, and some of its characteristics.
Prepared for: AO A Electricity, Phase 2, students
Type of Program: Linear
Average Time Required: 55 minutes

Validation Data:	Number of learners tested	87
	Low score	72
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, JACKSONVILLE

ELECTRICITY

Dynamic Electricity and Ohm's Law
Identification Code: CNATT-J86 PAT
Basic concepts of electricity in motion and problem solving by use of Ohm's Law.
Prepared for: Class A School students
Type of Program: Linear-Branching-Adjunct
Average Time Required: 1 hour and 50 minutes

Validation Data:	Number of learners tested	69
	Low score	83
	High score	100
	Percentage who scored 90% or higher	97.10

Developer: NATTC, NAS, JACKSONVILLE

Dynamic Electricity, Ohm's Law and the Rheostat
Identification Code: CNATT-P-4982 (Rev. 11-65) PAT
Definition of EMF, resistance, and current flow. Measuring instruments, and Ohm's Law with mathematical application.
Prepared for: AMFU A School students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 58 minutes

Validation Data:	Number of learners tested	52
	Low score	47
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Electrical Calculations - Work, Power and Energy (Electrical)
Identification Code: CNATT-J71 PAT
Provides instruction on electrical power, the unit of measurement, and the relationship of watts to horsepower.
Prepared for: Class A School students
Type of Program: Branching
Average Time Required: 1 hour and 15 minutes

Validation Data:	Number of learners tested	78
	Low score	80
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, JACKSONVILLE

F-4B Electrical Instruments and Lighting System Familiarization
Identification Code: CNATT-N420
Covers the engine instruments located on the pilot's main instrument panel, the center pedestal, and the left console. It covers the location of fuel quantity indicator, the fuel quantity feed tank check switches, and the location of the exterior lights control panel.
Prepared for: NAMTRADETS, Class C, students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	82
	Low score	74
	High score	100
	Percentage who scored 90% or higher	94.6

Developer: NAMTRAGRU, NAS, MEMPHIS

ELECTRICITY

Elements of Electrical Physics, Ohm's Law, Part II, Lesson 1-2-5

Identification Code: CNATT-P-5134 PAT

Extends the theory of Ohm's Law to parallel and series-parallel circuits involving resistance, voltage, current, and power calculations.

Prepared for: GCA Maintenance (Engineman) Course, Class C, students

Type of Program: Linear

Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	23
	Low score	78.8
	High score	100
	Percentage who scored 88.9% or higher	91

Developer: NATTC, NAS, GLYNCO

Introduction to Electrical Symbols

Identification Code: CNATT-P-5277 PAT

Identity of the basic electrical symbols used in the diagrams of aircraft electrical systems. The difference between an electrical schematic diagram and an electrical wiring diagram.

Prepared for: AMFU A School students

Type of Program: Linear-Adjunct

Average Time Required: 30 minutes

Validation Data:	Number of learners tested	53
	Low score	80
	High score	100
	Percentage who scored 90% or higher	(not given)

Developer: NATTC, NAS, MEMPHIS

Electricity - Electromagnetism

Identification Code: CNATT-P-5092 PAT

The definition of electromagnetism and electromagnets. Gives an understanding of the current flow and lines of force. Lists ways that solenoids differ from relays.

Prepared for: AMFU A School students

Type of Program: Linear

Average Time Required: 2 hours and 17 minutes

Validation Data:	Number of learners tested	53
	Low score	70
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Electricity - Electromagnetic Induction

Identification Code: CNATT-P-5081 PAT

The factors which induce and affect the strength of EMF. Understanding of the left-hand generator rule, using illustration to indicate current flow and direction of motion.

Prepared for: AMFU A School students

Type of Program: Linear

Average Time Required: 57 minutes

Validation Data:	Number of learners tested	50
	Low score	88
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

ELECTRICITY

Electricity - Magnetism
Identification Code: CNATT-P-5094
Definition of magnetism, the laws of polarity, and classification of magnetic and nonmagnetic metal. Methods of demagnetizing. An understanding of retentivity, reluctance, and transparency.
Prepared for: AMFU A School students
Type of Program: Linear
Average Time Required: 58 minutes
Validation Data:

Number of learners tested	60
Low score	83.5
High score	100
Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Electricity and Electronics, Current, Voltage, and Resistance
Identification Code: CNABT-P-658X PAT
The action of current, electromotive force, and resistance using the electrical terms of amperage, voltage, and ohmage.
Prepared for: Basic Naval Aviation Officers School students
Type of Program: Linear
Average Time Required: 31 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Electricity and Electronics, the Six Sources of Electricity
Identification Code: CNABT-P-711X PAT
The six methods of producing electricity from the primary energy sources, capabilities and limitations of each primary energy source, and the practical applications for the electricity produced from each source.
Prepared for: Naval Flight Officer students
Type of Program: Linear
Average Time Required: 31 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Electromagnetic Spectrum
Identification Code: CNABT-P-717X PAT
Definitions of the electromagnetic spectrum, electromagnetic radiations, and transverse waves. The velocity formula. The use of radio waves and their propagation.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 13 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

ELECTRICITY

Generators
Identification Code: CNATT-J35 PAT
Defines and lists the three requirements to induce EMF by electromagnetic induction. Lists three factors governing the amount of EMF induced in a conductor. Completes statements concerning the left-hand rule for generators. Defines a generator. Lists two methods of collecting EMF from a generator.
Prepared for: Class A and B Ordnance Schools students
Type of Program: Linear
Average Time Required: 1 hour and 55 minutes

Validation Data:	Number of learners tested	83
	Low score	76
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, JACKSONVILLE

Lamps, Light Assemblies, and Resistors
Identification Code: CNATT-J16 PAT
Provides an understanding of lamps, how they are used, what their parts are, and how they are designated. Covers some purposes of resistors and resistor color coding.
Prepared for: Class A School students
Type of Program: Linear-Branching-Adjunct
Average Time Required: 55 minutes

Validation Data:	Number of learners tested	80
	Low score	82
	High score	100
	Percentage who scored 90% or higher	91.25

Developer: NATTC, NAS, JACKSONVILLE

Magnetism and Electromagnetism
Identification Code: CNATT-G-16 PAT
Presents a basic introduction to magnetism by discussing the terms used and the properties of different types of magnets. Discusses magnetic fields produced around conductors and coils. Discusses electromagnets, how they are made, and their advantages over other types of magnets.
Prepared for: Class A School students or for review
Type of Program: Linear
Average Time Required: 1 hour and 15 minutes

Validation Data:	Number of learners tested	54
	Low score	80
	High score	100
	Percentage who scored 90% or higher	88.7

Developer: NATTC, NAS, GLYNCO

Parallel Circuits
Identification Code: CNATT-P-5006 (Rev. 2-66) PAT
Covers the laws for, and the mathematical formulas used to solve for, either individual or total voltage, resistance, or current in a parallel circuit.
Prepared for: AMFU A School students
Type of Program: Linear
Average Time Required: 1 hour and 56 minutes

Validation Data:	Number of learners tested	50
	Low score	67.5
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS
Note: Prerequisite: Series Circuits (CNATT-P-5095) PAT (See page E-15)

ELECTRICITY

Reactive Circuits Inductance
Identification Code: None. Use title.
Covers the definition of mutual and self-inductance and their effect on an electrical circuit. The factors that determine the value of inductance and how to compute the L/R time constants of given circuits.
Prepared for: Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	54
	Low score	70
	High score	100
	Percentage who scored 90% or higher	94.44

Developer: NATTC, NAS, JACKSONVILLE

Introduction to Resonance and Series Resonant Circuit
Identification Code: CNATT-J99 PAT
Defines resonance and gives the students an understanding of the conditions that exist in a series resonant circuit.
Prepared for: Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 1 hour and 32 minutes

Validation Data:	Number of learners tested	67
	Low score	70
	High score	100
	Percentage who scored 90% or higher	92.5

Developer: NATTC, NAS, JACKSONVILLE

Series Circuits
Identification Code: CNATT-P-5095 PAT
Covers the identity of a series circuit; the various circuit functions; and, in simplified form, conventional methods of calculating resistance in basic series circuits. Shows how problems involving current, voltage, and resistance may be solved by the use of basic mathematical formulas.
Prepared for: AMFU A School students
Type of Program: Linear
Average Time Required: 55 minutes

Validation Data:	Number of learners tested	55
	Low score	85
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

Fundamental Concepts of Shipboard Electricity - D-C Motors
Identification Code: None. Use title.
Covers motor action, counter emf, armature reaction, interpoles, compensating windings, characteristics, construction and maintenance.
Prepared for: Prospective Engineering Officers
Type of Program: Linear
Average Time Required: 2 hours and 30 minutes
Validation Data: 90% learners tested scored 90% or higher.
Developer: FTC, SAN DIEGO

ELECTRICITY

Fundamental Concepts of Shipboard Electricity - Introduction
Identification Code: None. Use title.
Covers molecular and atomic structure, magnetic theory, electron flow, and simple series and parallel circuits.
Prepared for: Prospective Engineering Officers
Type of Program: Linear
Average Time Required: 2 hours
Validation Data: 90% or learners tested scored 90% or higher
Developer: FTC, SAN DIEGO

Solid-State Theory - Introduction to Semiconductors AO
Identification Code: CNATT-J73 PAT
Teaches definitions of atomic structure, energy, and semiconductor. Also introduces trainees to basic transistors.
Prepared for: AO Class A Electricity, Phase 2, students
Type of Program: Linear
Average Time Required: 1 hour and 20 minutes

Validation Data:	Number of learners tested	103
	Low score	52
	High score	100
	Percentage who scored 90% or higher	90

Statements of objectives are not available from the developer.
Developer: NATTC, NAS, JACKSONVILLE

Transformers
Identification Code: CNATT-J18 PAT
Labels primary and secondary coils, step-up and step-down transformers. States two types of transformers and core losses. States the purpose of a laminated core. Solves for efficiency, remaining voltage and remaining current.
Prepared for: Class A Ordnance School students
Type of Program: Linear-Branching
Average Time Required: 53 minutes

Validation Data:	Number of learners tested	90
	Low score	70
	High score	100
	Percentage who scored 90% or higher	95

Developer: NATTC, NAS, JACKSONVILLE

Static Characteristics of Triodes AO(A)
Identification Code: CNATT-J63 PAT
Teaches the primary purpose of a Triode and the operationg characteristics of a Triode.
Prepared for: AO Class A Electricity, Phase 2, students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	99
	Low score	46
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, JACKSONVILLE

ELECTRONIC WARFARE

Rapid ECM Evaluation by Rule-of-Thumb Method (A SECRET Program)
Identification Code: FAAWTC SDiego PI-001
Teaches the student to make rapid evaluations of the function, probable platform, and general range capability of an emitter on the basis of the characteristics available from ECM intercept equipment.
Prepared for: Electronic Warfare Officers; ECM Operators
Type of Program: Branching
Average Time Required: 3 hours

Validation Data:	Number of learners tested	124
	Low score	62
	High score	91
	Percentage who scored 90% or higher	70

Developer: FAAWTC, SAN DIEGO

ELECTRONICS

Accelerometers, Q-6A
Identification Code: CNATT-M160 PAT
Defines velocity, speed, acceleration, accelerometer, and "G" unit. Explains the similarities and differences between the angular and linear accelerometers. Shows the construction, operation, and special components of linear accelerometers.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 10 minutes

Validation Data:	Number of learners tested	53
	Low score	90
	High score	100
	Percentage who scored 90% or higher	100

Developer: NATTC, NAS, MEMPHIS

A.C. Circuit Characteristics, P-IX-1B
Identification Code: CNATT-P-5237 PAT
Covers the effects of changing values in: L/R circuits, RC circuits, and LCR circuits.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 29 minutes

Validation Data:	Number of learners tested	53
	Low score	50
	High score	100
	Percentage who scored 90% or higher	90.2

Developer: NATTC, NAS, MEMPHIS

A.C. Circuits Characteristics, P-IX-1A
Identification Code: CNATT-P-5057 PAT
Covers the: Definition of true power, power apparent, and power factor; solution of problems involving apparent power, true power and power factor; waveform relationship of current, voltage, and power in L, C, and R circuits.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 12 minutes

Validation Data:	Number of learners tested	51
	Low score	50
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Parallel A.C. Circuits, P-IX-2
Identification Code: CNATT-M117 PAT
Covers the solution of parallel circuit problems for inductive reactance, capacitive reactance, impedance, phase angle, and current.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Branching
Average Time Required: 2 hours and 45 minutes

Validation Data:	Number of learners tested	50
	Low score	26
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

A-C Electricity, IB-VII-1
Identification Code: CNATT-M328 PAT
Solve for instantaneous a-c values. Recognize and describe a-c phase relationships. Solve for average and effective a-c values. Solve for average values of a-c power.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 2 hours and 3 minutes

Validation Data:	Number of learners tested	93
	Low score	77
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

A.C. Meters, IB-IX-4
Identification Code: CNATT-M193 PAT
Construction and operation of the D'Arsonval movement with rectifiers and the following meters: electrodynometer, moving iron-vane meter, opposed-coil meter, thermocouple and frequency meter.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 2 hours and 20 minutes

Validation Data:	Number of learners tested	61
	Low score	53
	High score	100
	Percentage who scored 90% or higher	90.16

Developer: NATTC, NAS, MEMPHIS

Adders, D-10A
Identification Code: CNATT-M394 PAT
Teaches the construction of truth tables for Adder Circuits. Teaches the logic circuitry of Adders.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	56
	Low score	85
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Alternating Current and Voltage Characteristics, P-VIII-2
Identification Code: CNATT-P-5030 PAT
Covers the relationship of a-c values of alternating current or voltage; conversion of a-c values of instantaneous value, maximum or peak value, peak-to-peak value, effective or rms value, and average value; identification of a-c waveforms.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 58 minutes

Validation Data:	Number of learners tested	60
	Low score	50
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Alternators, IB-IX-2
Identification Code: CNATT-M125 PAT
Theory of a basic alternator and how an a-c output voltage is developed. Relationship between cycle, angular velocity, and frequency.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 55 minutes

Validation Data:	Number of learners tested	53
	Low score	80
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, MEMPHIS

Ammeters, P-V-2
Identification Code: CNATT-P-4954 PAT
Covers: The definition of the ammeter, its sensitivity, the use of shunts and how it must be connected in the circuit; the methods used for calculating values of shunt resistance; safety precautions necessary when using the ammeter.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 18 minutes

Validation Data:	Number of learners tested	52
	Low score	77
	High score	100
	Percentage who scored 90% or higher	92.3

Developer: NATTC, NAS, MEMPHIS

Ammeters and Voltmeters, IB-V-2
Identification Code: CNATT-M389 PAT
Describes basic ammeter and voltmeter configuration. Teaches methods of computing range extension resistances for ammeters and voltmeters. Teaches methods of computing the shunting effect of voltmeters. Teaches personnel and equipment safety precautions.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 1 hour and 42 minutes

Validation Data:	Number of learners tested	86
	Low score	89
	High score	100
	Percentage who scored 90% or higher	97

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Angles, IB-VI-1
Identification Code: CNATT-M270 PAT
Characteristics of angles and angle generation. Conversion of degrees to radians and radians to degrees. Solution of right triangles using the Pythagorean Theorem.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 1 hour and 4 minutes

Validation Data:	Number of learners tested	52
	Low score	87
	High score	100
	Percentage who scored 90% or higher	98

Developer: NATTC, NAS, MEMPHIS

Audio Power Amplifiers
Identification Code: NAVPERS 93600-7
The purposes and uses of audio power amplifiers. The characteristics of a beam power tube, a push-pull power amplifier, and impedance matching.
Prepared for: STG Class A-1 School students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	76
	Low score	65
	High score	100
	Percentage who scored 90% or higher	89

Developer: BUPERS (PERS-C13)

Beam Power Tubes, VT-10
Identification Code: CNATT-P-M47 PAT
Covers: The construction and operation of beam power tubes; practical applications of beam power tubes.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 42 minutes

Validation Data:	Number of learners tested	53
	Low score	38
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Bias, VT-12
Identification Code: CNATT-P-5299 PAT
Covers the methods of obtaining bias and how bias affects amplifier operating characteristics. Shows how amplifiers are classified.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 20 minutes

Validation Data:	Number of learners tested	52
	Low score	75
	High score	100
	Percentage who scored 90% or higher	91.9

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Binary Arithmetic, D-4
Identification Code: CNATT-M382 PAT
Teaches the fundamentals of binary arithmetic. Teaches the method used by a computer in addition. Teaches the method of complementing decimal and/or binary numbers. Teaches subtraction by the complement method.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 2 hours

Validation Data:	Number of learners tested	47
	Low score	60
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Bistable Multivibrators, D-8
Identification Code: CNATT-M368 PAT
Teaches the theory of operation of the following circuits: set-clear multivibrators; collector-triggered multivibrator; base-triggered multivibrator; complementary multivibrator; base-triggered complementary multivibrator. Explains the Ferrite Core device as used in the design of bistable circuits.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	55
	Low score	55
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

Capacitance, P-VIII-4
Identification Code: CNATT-P-5166
Covers the construction of typical capacitors, characteristics of typical capacitors, and computation of total capacitors in series and in parallel.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 40 minutes

Validation Data:	Number of learners tested	69
	Low score	65
	High score	100
	Percentage who scored 90% or higher	92.6

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Capacitance and RC Time, IB-IV-3
Identification Code: CNATT-M387 PAT
Teaches the basic types of capacitors. Teaches basic RC time. Teaches the fundamental concepts of RC circuits. Teaches the mathematics used to find the value of various unknown quantities in simple RC parallel and series circuits.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 2 hours and 55 minutes

Validation Data:	Number of learners tested	59
	Low score	77
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, MEMPHIS

Capacitive Reactance, P-VIII-5
Identification Code: CNATT-P-5124
Covers the: Effects of capacitive reactance in series a-c circuits; Calculation of capacitive reactance in series a-c circuits.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 29 minutes

Validation Data:	Number of learners tested	50
	Low score	80
	High score	100
	Percentage who scored 90% or higher	98

Developer: NATTC, NAS, MEMPHIS

Conductors, Resistors, Insulators, P-I-5
Identification Code: CNATT-P-4831
Covers the definition and characteristics of: Electrical conductors; Electrical resistors and how they are classified; Insulators and insulation breakdown.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Branching
Average Time Required: 1 hour

Validation Data:	Number of learners tested	77
	Low score	81
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Comparators, D-13
Identification Code: CNATT-M367 PAT
Define the term comparator and the three major uses of comparators. Provides a brief explanation of computer word length, the normal method of expressing negative numbers in computers, and the two methods of comparing numbers. Explains the basic operation of the quality and inequality comparator circuits.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 31 minutes

Validation Data:	Number of learners tested	51
	Low score	80
	High score	100
	Percentage who scored 90% or higher	92.2

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Introduction to Computers, D-1
Identification Code: CNATT-M353 PAT
Teaches the fundamentals of computer theory. Provides a knowledge of computer capabilities, operations and uses. Provides a comparison of digital and analog computers.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	118
	Low score	66.6
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, MEMPHIS

Counters, Registers and Timing Circuits, D-9
Identification Code: CNATT-M384 PAT
Teaches the theory of operation of the following circuits: series up-counter; parallel up-counter; parallel down-counter; the RACE program, as it applies to counters; decade counter; ring counter; counter decoder. Explains Registers and Timing Circuits as used in the digital computer.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 32 minutes

Validation Data:	Number of learners tested	52
	Low score	87
	High score	100
	Percentage who scored 90% or higher	98

Developer: NATTC, NAS, MEMPHIS

D'Arsonval Meter Movement, IB-V-1
Identification Code: CNATT-M355 PAT
Description of the major components of the D'Arsonval meter movement, and their functions. Discussion of the electromagnetic principles involved in the D'Arsonval meter movement. Discussion of D'Arsonval meter movement characteristics and safety precautions.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 51 minutes

Validation Data:	Number of learners tested	61
	Low score	73.3
	High score	100
	Percentage who scored 90% or higher	91.9

Developer: NATTC, NAS, MEMPHIS

D-C Generators, IB-IV-1A
Identification Code: CNATT-M350 PAT
The basic physical construction of the d-c generator. The fundamental theory of converting mechanical energy into electrical energy by the d-c generator and the losses encountered in the operation of the d-c generator.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	57
	Low score	76
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

D-C Motors, IB-IV-1B
Identification Code: CNATT-M351 PAT
The basic physical construction of the d-c motor. The fundamental theory of converting electrical energy into mechanical energy by the d-c motor and the losses encountered in the operation of a d-c motor.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 24 minutes

Validation Data:	Number of learners tested	57
	Low score	76
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, MEMPHIS

Differential Synchro Transmitters, Q-2
Identification Code: CNATT-M137 PAT
Covers the definition and use of differential synchro transmitters. Shows the operation, construction, block diagram, and alignment procedure for differential synchro transmitters.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 28 minutes

Validation Data:	Number of learners tested	56
	Low score	83
	High score	100
	Percentage who scored 90% or higher	94.4

Developer: NATTC, NAS, MEMPHIS

Digital-Coding Systems, D-5
Identification Code: CNATT-M381 PAT
Teaches conversion of decimal numbers to binary-coded decimal numbers. Teaches conversion of decimal numbers to excess-three coded numbers. Teaches conversion of binary numbers to Gray-coded numbers. Teaches conversion on Gray-coded numbers to binary numbers.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 2 hours and 19 minutes

Validation Data:	Number of learners tested	50
	Low score	70
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Digital Numbering Systems, D-3
Identification Code: CNATT-M380 PAT
Teaches conversion from base 10 numbers to base 8, 5 and 2 numbers. Teaches conversion from base 8, 5 and 2 to base 10. Teaches conversion from binary fractions to base 10 and vice versa. Teaches conversion from octal numbers to binary numbers.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 21 minutes

Validation Data:	Number of learners tested	70
	Low score	55
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Diode Applications, VT-3
Identification Code: CNATT-P-M44 PAT
Covers the unidirectional action of the diode vacuum tube in both signal and power application, Shows how diodes operate when used for detecting. Covers the basic concept of the use of diodes as rectifiers in electronic power supplies.
Prepared for: Avionics Fundamental School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 40 minutes
Validation Data:

Number of learners tested	66
Low score	45
High score	100
Percentage who scored 90% or higher	92.4

Developer: NATTC, NAS, MEMPHIS

Doppler Radar and Ferrite Devices, Q-15B
Identification Code: CNATT-M258 PAT
Definition of doppler effects and radar. Solution of doppler frequency problems. Basic theory of ferrite devices and their uses.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 44 minutes
Validation Data:

Number of learners tested	61
Low score	90
High score	120
Percentage who scored 90% or higher	93.4

Developer: NATTC, NAS, MEMPHIS

Conversion of Electrical Units, P-II-1B
Identification Code: CNATT-P-5244
Covers the powers of 10 which correspond to the five metric prefixes commonly used in electronics; requires problem solving and use of these prefixes. Covers the proper procedure to convert from one metric value to another.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 50 minutes
Validation Data:

Number of learners tested	52
Low score	66
High score	100
Percentage who scored 90% or higher	96

Developer: NATTC, NAS, MEMPHIS

Fundamental Concepts of Electricity, IB-II-1
Identification Code: CNATT-M379 PAT
Teaches the basic principles of electricity. Compares and contrasts conductors and insulators. Teaches the difference between static and dynamic electricity.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 37 minutes
Validation Data:

Number of learners tested	63
Low score	60
High score	80
Percentage who scored 90% or higher	95

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Electromagnetism, P-IV-2
Identification Code: CNATT-P-4987
Covers: The magnetic effects of current on a straight conductor and in a coiled conductor. How current flow in a conductor forms magnetic poles. Basic principles of electromagnetism, the factors affecting field strength, and some basic applications of electromagnets.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	69
	Low score	73
	High score	100
	Percentage who scored 90% or higher	89.4

Developer: NATTC, NAS, MEMPHIS

Electromagnetism, IB-III-2A
Identification Code: CNATT-M314 PAT
Fundamental rules used in the study of electromagnetism. Mathematical formulas associated with electromagnetism as used in the cgs system of measurement.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 1 hour and 59 minutes

Validation Data:	Number of learners tested	70
	Low score	70
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Electromagnetism, IB-III-2B
Identification Code: CNATT-M315 PAT
Purpose and use of magnetization and permeability curves. Interpretation of the hysteresis loop and the variables that affect hysteresis loss.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 37 minutes

Validation Data:	Number of learners tested	67
	Low score	73
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, MEMPHIS

Electron Tube Rectifier Circuits
Identification Code: NAVPERS 93600-2
The theory and types of electron emission, types of emitters, emitter materials, and basic cathode construction. The theory of operation, electrical characteristics, and construction of electron tube diodes. The process of rectification and an electrical analysis of the functions of half-wave, full-wave, and bridge rectifier circuits.
Prepared for: STG Class A-1 School students
Type of Program: Linear
Average Time Required: 2 hours

Validation Data:	Number of learners tested	75
	Low score	73
	High score	100
	Percentage who scored 90% or higher	85

Developer: BUPERS (PERS-C13)

ELECTRONICS

Electron Tube Rectifier Circuits
Identification Code: Intermediate Series
The theory and types of electron emission, types of emitters, emitter materials, and basic cathode construction. The theory of operation, electrical characteristics, and construction of electron tube diodes. The process of rectification and an electrical analysis of the functions of half-wave, full-wave, and bridge rectifier circuits.
Prepared for: ST Class A-2 School, students
Type of Program: Linear
Average Time Required: 2 hours

Validation Data:	Number of learners tested	76
	Low score	84
	High score	100
	Percentage who scored 90% or higher	87

Developer: FLEASWSCOL, SAN DIEGO

Review of Basic Electronic Circuits, Basic Power Supplies, P-1-2-1
Identification Code: CNATT-G13 PAT
Reviews the four basic types of power supply circuits, three-phase power supply configurations, the rating of transformers, and percentage of ripple. Discusses the uses of different types of rectifier tubes.
Prepared for: GCA Electronics Maintenance Courses, Class C, students
Type of Program: Adjunct (SPRT)
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	27
	Low score	85
	High score	100
	Percentage who scored 90% or higher	92.5

Developer: NATTC, NAS, GLYNCO

Review of Basic Electronic Circuits, Bias and Amplifiers, P-1-2-2
Identification Code: CNATT-P-5054 PAT
Compares the characteristics of the triode, tetrode, and pentode vacuum tubes. Discusses bias arrangements on vacuum tubes for Class A, B, or C operation. Reviews coincidence tubes, fixed, self, and grid leak bias.
Prepared for: GCA Electronics Maintenance Courses, Class C, students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	57
	Low score	83.4
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, GLYNCO

Review of Basic Electronic Circuits, Clampers, P-1-2-6
Identification Code: CNATT-G14 PAT
Reviews the circuits of positive and negative diode clampers using zero reference and the grid clamper and the circuits of both positive and negative diode clampers using positive or negative voltage references. Reviews the waveforms to be expected from typical diode clamper circuits.
Prepared for: GCA Electronics Maintenance Courses, Class C, students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 20 minutes

Validation Data:	Number of learners tested	58
	Low score	80
	High score	100
	Percentage who scored 90% or higher	91.4

Developer: NATTC, NAS, GLYNCO

ELECTRONICS

Review of Basic Electronic Circuits, LCR, P-1-1-3
Identification Code: CNATT-P-5220 PAT
Reviews LR and RC time constants and the effects of long and short LR and RC time constants on an applied square wave.
Prepared for: GCA Electronics Maintenance Courses, Class C, students
Type of Program: Linear-Adjunct
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	40
	Low score	81.8
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, GLYNCO

Review of Basic Electronic Circuits, Limiters, P-1-2-5
Identification Code: CNATT-P-5118 PAT
Reviews series positive and negative diode limiters, parallel positive and negative diode limiters, and series and parallel diode limiters having positive or negative reference levels. Reviews cutoff, saturation, and grid limiters.
Prepared for: GCA Electronics Maintenance Courses, Class C, students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 40 minutes

Validation Data:	Number of learners tested	92
	Low score	91.5
	High score	100
	Percentage who scored 87.5% or higher	95.1

Developer: NATTC, NAS, GLYNCO

Review of Basic Electronic Circuits, Multivibrators, P-1-2-8
Identification Code: CNATT-P-5114 PAT
Reviews free-running, cathode coupled, and Eccles Jordan types of multivibrator circuits.
Prepared for: GCA Electronics Maintenance Courses, Class C, students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	61
	Low score	81.84
	High score	100
	Percentage who scored 90% or higher	88.5

Developer: NATTC, NAS, GLYNCO

Review of Basic Electronic Circuits, Resonance, P-1-1-3
Identification Code: CNATT-G1 PAT
Reviews the theory and application of series and parallel LCR circuits.
Prepared for: GCA Electronics Maintenance Courses, Class C, students
Type of Program: Adjunct (SPRT)
Average Time Required: 2 hours and 30 minutes

Validation Data:	Number of learners tested	60
	Low score	80
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, GLYNCO

ELECTRONICS

Filter Circuits, VT-4
Identification Code: CNATT-P-5235
Establishes the need for filter circuits and explains their function in the power supply. Explains the function of each component of filters and provides an understanding of their combined characteristics. Explains voltage division due to impedance ratio of components. Illustrates the characteristics of different filter circuits.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 15 minutes

Validation Data:	Number of learners tested	58
	Low score	60
	High score	100
	Percentage who scored 90% or higher	98.4

Developer: NATTC, NAS, MEMPHIS

Filter Circuits
Identification Code: NAVPERS 93600-3
The purposes and functions of filters in a power supply. The characteristics and functions of four basic filter types; including basic capacitance, basic inductance, inductance and capacitance (LC), and LC Pi-type filtering.
Prepared for: STG Class A-1 School students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	62
	Low score	68
	High score	100
	Percentage who scored 90% or higher	86

Developer: BUPERS (PERS-C13)

Filter Circuits
Identification Code: Intermediate Series
The purposes and functions of filters in a power supply. The characteristics and functions of four basic filter types; including basic capacitance, basic inductance, inductance, and capacitance (LC), and LC Pi-Type filtering.
Prepared for: ST Class A-2 School students
Type of Program: Linear
Average Time Required: 1 hour and 15 minutes

Validation Data:	Number of learners tested	84
	Low score	72
	High score	100
	Percentage who scored 90% or higher	86

Developer: FLEASWSCOL, SAN DIEGO

Basic F-M, Q-15A
Identification Code: CNATT-M257 PAT
Basic f-m characteristics. Devices used to frequency modulate. Difference between f-m and a-m receivers.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 30 minutes

Validation Data:	Number of learners tested	61
	Low score	60
	High score	100
	Percentage who scored 90% or higher	90.2

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Basic F-M Receiver Theory, X-5B
Identification Code: CNATT-M151 PAT
Covers the basic f-m receiver circuits such as r-f amplifiers, i-f amplifiers, local oscillators, and detectors. Compares the a-m receiver to the f-m receiver.
Prepared for: Aviation Anti-Submarine Warfare Technician School, Class A, students
Type of Program: Linear
Average Time Required: 38 minutes
Validation Data: Number of learners tested 68
Low score 87
High score 100
Percentage who scored 90% or higher 94
Developer: NATTC, NAS, MEMPHIS

Basic F-M Theory, X-5A
Identification Code: CNATT-M153 PAT
Covers the basic theory and characteristics of frequency modulation. Explains the advantages of f-m compared to a-m. Defines modulation index and provides problems showing the effect on bandwidth and number of effective sideband pairs when the modulation index is changed.
Prepared for: Aviation Anti-Submarine Warfare Technicians School, Class A, students
Type of Program: Linear
Average Time Required: 48 minutes
Validation Data: Number of learners tested 70
Low score 72
High score 100
Percentage who scored 90% or higher 93
Developer: NATTC, NAS, MEMPHIS

Generators, P-VI-1
Identification Code: CNATT-P-4958
Covers the: Definition and the principles of electromagnetic induction. Principles of a basic electrical generator. Left-hand rule and sine-wave characteristics.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 2 hours and 35 minutes
Validation Data: Number of learners tested 52
Low score 58
High score 100
Percentage who scored 90% or higher 92.1
Developer: NATTC, NAS, MEMPHIS

Generators and Motors, D.C.
Identification Code: NAVPERS 93600-1
The basic physical construction of a generator and a motor. The primary differences between a.c. and d.c. equipments. The inter-action of components during operation of generators and motors.
Prepared for: STG Class A-1 School students
Type of Program: Linear
Average Time Required: 1 hour
Validation Data: Number of learners tested 57
Low score 60
High score 100
Percentage who scored 90% or higher 92
Developer: BUPERS (PERS-C13)

ELECTRONICS

Gyroscope Fundamentals, Q-5
Identification Code: CNATT-M195 PAT
Presents the definition of a gyroscope. Explains the following gyroscopic principles: rigidity-in-space, precession, and factors affecting rigidity and precession. Shows the construction of the gyroscope.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 15 minutes

Validation Data:	Number of learners tested	55
	Low score	52
	High score	100
	Percentage who scored 90% or higher	92.7

Developer: NATTC, NAS, MEMPHIS

Introduction to IFF, R-1
Identification Code: CNATT-M152 PAT
Purposes and uses of IFF systems. Characteristic operation and function of IFF system components. Characteristics of IFF pulses.
Prepared for: Aviation Electronics Technical School, Class A (R Course), students
Type of Program: Linear
Average Time Required: 31 minutes

Validation Data:	Number of learners tested	54
	Low score	75
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, MEMPHIS

Inductance, P-VIII-1
Identification Code: CNATT-M110 PAT
Provides a basis for understanding inductive properties of coils and conductors. Covers the factors determining the value of inductance. Provides a basis for understanding L/R circuits and behavior in a-c circuits.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	51
	Low score	83
	High score	100
	Percentage who scored 90% or higher	

Developer: NATTC, NAS, MEMPHIS

Inductance, IB-IV-2
Identification Code: CNATT-M388 PAT
Teaches the basic types of inductors. Teaches basic L/R time. Teaches the mathematics used for calculating the rate of change of current and mathematics used to find unknown quantities in simple LR circuits. Teaches the mathematics used to find the value of inductance and the value of the coefficient of coupling in circuits with and without coupling.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 1 hour and 47 minutes

Validation Data:	Number of learners tested	59
	Low score	75
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Inductive Reactance, P-VIII-2
Identification Code: CNATT-M119 PAT
Covers the effects of frequency and inductance on inductive reactance. Covers vector analysis of L/R circuits. Provides practice in calculating values in typical inductive circuits.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 2 hours and 10 minutes

Validation Data:	Number of learners tested	51
	Low score	50
	High score	100
	Percentage who scored 90% or higher	90.2

Developer: NATTC, NAS, MEMPHIS

Infrared Fundamentals, Q-7
Identification Code: CNATT-M199 PAT
Presents the definition and application of infrared. Gives the following infrared characteristics: frequency, intensity, emissivity factor, density, attenuation, and detection.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 8 minutes

Validation Data:	Number of learners tested	56
	Low score	78.8
	High score	100
	Percentage who scored 90% or higher	92.9

Developer: NATTC, NAS, MEMPHIS

F-4B Integrated Electronics Systems Familiarization
Identification Code: N553
Provides the student with a general knowledge of control switches, component locations, and the basic purpose of the Communication, Navigation, and Identification System; The Radar Altimeter; and the Navigation Computer Set.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 28 minutes

Validation Data:	Number of learners tested	43
	Low score	84
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, MEMPHIS

Internal Navigation, Q-6B
Identification Code: CNATT-M190 PAT
The general purpose and use of inertial navigation and the basic principles of inertial guidance.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 35 minutes

Validation Data:	Number of learners tested	57
	Low score	80
	High score	100
	Percentage who scored 90% or higher	98

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

LCR Series Circuits, IB-VII-4
Identification Code: CNATT-M359 PAT
Presents the concept of net reactance, net reactive power, and not reactive voltage. Provides drill in solving LCR series circuit problems.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 1 hour and 35 minutes

Validation Data:	Number of learners tested	55
	Low score	70
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Logic Circuits, D-7
Identification Code: CNATT-M392 PAT
Explains the theory of operation of AND and OR gate circuits. Explains the theory of operation of NOT circuits. Explains the theory of operation of NOR and NAND circuits. Explains the theory of operation of the INHIBITOR circuit.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 11 minutes

Validation Data:	Number of learners tested	50
	Low score	65
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, MEMPHIS

Logical Troubleshooting, TS-1
Identification Code: CNATT-M64 PAT
Basic requirements and a general approach to electronic troubleshooting. Types of checks, types of signal flow paths, and general rules to follow when troubleshooting. Usefulness of types of checks and their relative importance.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Adjunct
Average Time Required: 55 minutes

Validation Data:	Number of learners tested	55
	Low score	85
	High score	100
	Percentage who scored 90% or higher	96.4

Developer: NATTC, NAS, MEMPHIS

Magnetic Amplifier Characteristics, IB-MA-5
Identification Code: CNATT-M287 PAT
Transresistance equation, type of gain, and desirable characteristics of magnetic amplifiers. Purpose and types of feedback employed in magnetic amplifiers.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 35 minutes

Validation Data:	Number of learners tested	50
	Low score	80
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Magnetic Amplifier Circuits and Applications, IB-MA-6
Identification Code: CNATT-M386 PAT
Teaches the operation of the saturable transformer with control. Teaches the operation of the magnetic-frequency detector and the magnetic amplifier discriminator. Teaches the use of Thyrite in magnetic amplifier applications. Teaches the operation of the magnetometer and the D-C transformer.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 55 minutes

Validation Data:		
	Number of learners tested	63
	Low score	90
	High score	100
	Percentage who scored 90% or higher	100

Developer: NATTC, NAS, MEMPHIS

Magnetic Amplifier Fundamentals, IB-MA-1
Identification Code: CNATT-M326 PAT
Covers basic magnetism, linear inductance, terminology and special magnetic properties.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 1 hour and 27 minutes

Validation Data:		
	Number of learners tested	56
	Low score	90
	High score	100
	Percentage who scored 90% or higher	100

Developer: NATTC, NAS, MEMPHIS

Self-Saturating Magnetic Amplifiers, IB-MA-4A
Identification Code: CNATT-M376 PAT
Provides an understanding of the characteristics and theory of operation of the half-wave self-saturating magnetic amplifier.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 55 minutes

Validation Data:		
	Number of learners tested	77
	Low score	80
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, MEMPHIS

Self-Saturating Magnetic Amplifiers, IB-MA-4B
Identification Code: CNATT-M377 PAT
Provides an understanding of the characteristics and theory of the full-wave magnetic amplifier. Teaches the theory of operation of the doubler circuit. Teaches the theory of operation of the push-pull D-C circuit (FERRAC). Provides an understanding of the LUFCY circuit and the push-pull doubler circuit.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:		
	Number of learners tested	77
	Low score	80
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Magnetic Theory, X-1
Identification Code: CNATT-M154 PAT
Basic principles of magnetism. Description of the magnetic field of the earth, its magnitude and distortion. Existence, magnetic plane, and the direction of the magnetic field of a submarine. Basically how magnetic anomaly detection equipment operates.
Prepared for: Aviation Anti-Submarine Warfare Technicians School, Class A, students
Type of Program: Linear
Average Time Required: 50 minutes
Validation Data:

Number of learners tested	61
Low soore	75
High score	100
Percentage who scored 90% or higher	93.5

Developer: NATTC, NAS, MEMPHIS

Non-Linear Magnetics, IB-MA-2
Identification Code: CNATT-M327 PAT
Volt-second concept with the relationship of voltage to flux in a linear transformer. Non-linear magnetic theory with application of the volt-second-area concept with the relationship of voltage to flux in a basic saturable transformer.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 1 hour and 20 minutes
Validation Data:

Number of learners tested	55
Low score	82
High score	100
Percentage who scored 90% or higher	98

Developer: NATTC, NAS, MEMPHIS

Magnetism, P-IV-1
Identification Code: CNATT-P-4986
Covers: The sources of magnetism; basic domain molecular theory, the laws of polarity, and characteristics of magnetic fields; and the definitions of permeability, reluctance, residual magnetism, and retentivity.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 5 minutes
Validation Data:

Number of learners tested	69
Low score	79
High score	100
Percentage who scored 90% or higher	89.4

Developer: NATTC, NAS, MEMPHIS

Magnetism, IB-III-1
Identification Code: CNATT-M271 PAT
Basic properties of magnetic materials. Terms and definitions associated with magnetism.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 1 hour and 3 minutes
Validation Data:

Number of learners tested	55
Low score	75
High score	100
Percentage who scored 90% or higher	98

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

MASERS, Q-12
Identification Code: CNATT-M196 PAT
Presents the definition of the acronyms MASER and LASER. Explains the basic theory of operation of MASERS.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 13 minutes

Validation Data:	Number of learners tested	56
	Low score	100
	High score	100
	Percentage who scored 90% or higher	100

Developer: NATTC, NAS, MEMPHIS

Matter, P-I-1
Identification Code: CNATT-P-4816
Covers: The terms and definitions as applied to the chemical make-up of all matters. Basic electrical theory of matter, structure of the atom, and the electron theory of current flow. Describes electrical balance, electrical charge, and the forming of positive and negative ions.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 25 minutes

Validation Data:	Number of learners tested	77
	Low score	65
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Meter Movements and Scales, P-V-1
Identification Code: CNATT-P-4953
Covers how magnetism is related to meter movements, basic meter movements and their operating principles, and safety precautions necessary in the use of meters. Describes the different type scales used with meters.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 35 minutes

Validation Data:	Number of learners tested	56
	Low score	89
	High score	100
	Percentage who scored 90% or higher	98

Developer: NATTC, NAS, MEMPHIS

Microphones, IB-IX-5B
Identification Code: CNATT-M188 PAT
Construction and operation of military microphones and application of military microphones.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 38 minutes

Validation Data:	Number of learners tested	63
	Low score	85
	High score	100
	Percentage who scored 90% or higher	90.47

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Multi-Element Tubes as Amplifiers
Identification Code: NAVPERS 93600-6
The characteristics and construction of tetrode and pentode amplifier tubes, their function and uses. The causes and effects of inter-electrode capacitance upon triode vacuum tubes, tetrode vacuum tubes, and pentode vacuum tubes.
Prepared for: STG Class A-1 School students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	70
	Low score	72
	High score	100
	Percentage who scored 90% or higher	94

Developer: BUPERS (PERS-C13)

Multimeters, P-V-5
Identification Code: CNATT-P-4950 (Rev. 11-65)
Covers the: Multimeter, its scales, and the types of multimeters; Methods used for calculating values of shut resistors, range resistors, current limiting resistors, and zero adjust resistors; and Safety precautions necessary when using multimeters.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Branching
Average Time Required: 1 hour

Validation Data:	Number of learners tested	68
	Low score	71
	High score	100
	Percentage who scored 90% or higher	95.2

Developer: NATTC, NAS, MEMPHIS

Programed Text for Multimeter AN/PSM-4
Identification Code: None. Use title.
Consists of five sections: Purpose of the Multimeter AN/PSM-4. Identification of meter scales, controls, plug-in-jacks, and leads. Reading the meter. Safety precautions. Using the meter The first four sections are comprised of only paper and pencil items; the last section guides the trainee through a set of measurements in which he uses the multimeter of a special test circuit.
Prepared for: Class A School students
Type of Program: Linear
Average Time Required: 7 hours and 17 minutes

Validation Data:	Number of learners tested	31
	Low score	56
	High score	100
	Percentage who scored 90% or higher	55

Developer: NAVPERSRESCHACTY, SAN DIEGO

Multipliers and Dividers, D-11
Identification Code: CNATT-M383 PAT
Teaches the method of multiplying or dividing a binary number by a power of two. Explains the theory of operation of basic multiplier and divider, circuits. Explains the function of the sign comparator.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 38 minutes

Validation Data:	Number of learners tested	48
	Low score	80
	High score	100
	Percentage who scored 90% or higher	98

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Ohm's Law, P-I-4
Identification Code: CNATT-P-4830
Covers: The effects on an electrical circuit when values of current, voltage, and resistance are varied; and How to solve problems using the Ohm's Law formula.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	77
	Low score	80
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Ohmmeters, IB-V-3
Identification Code: CNATT-M337 PAT
Theory and use of series and shunt type ohmmeters. Safety precautions to be observed when using an ohmmeter. Requires the solving of series and shunt ohmmeter problems
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 54 minutes

Validation Data:	Number of learners tested	52
	Low score	73
	High score	100
	Percentage who scored 90% or higher	90.4

Developer: NATTC, NAS, MEMPHIS

Ohmmeters, P-V-4
Identification Code: CNATT-P-4949
Covers the: Basic principles of the ohmmeter, its construction, operation, and types of ohmmeters; Methods used for calculating values of limiting resistors, zero adjusting resistors and unknown values of resistance; Safety precautions necessary when using the ohmmeter.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Branching
Average Time Required: 1 hour

Validation Data:	Number of learners tested	60
	Low score	75
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

Basic Oscillator Action and Armstrong Oscillator, VT-16A
Identification Code: CNATT-P-M76 PAT
Necessary components and the function of each component for a basic oscillator, how bias affect operation of the Armstrong oscillator, basic knowledge of the difference between types of bias, and advantages and disadvantages of grid-leak bias.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 50 minutes

Validation Data:	Number of learners tested	58
	Low score	62
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Oscillators
Identification Code: NAVPERS 03600-8
The purpose and uses of oscillators in electronic circuits. Various terms pertaining to oscillators: positive feed-back, amplitude stability, frequency stability, fly-wheel effect, series-fed and shunt-fed. Primary requirements for a basic oscillator circuit. The characteristics and operation of the series-fed and shunt-fed Hartley Oscillators and the electron coupled oscillator.
Prepared for: STG Class A-1 School students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	79
	Low score	65
	High score	100
	Percentage who scored 90% or higher	91

Developer: BUPERS (PERS-C13)

Oscillators, Hartley and Others, VT-16B
Identification Code: CNATT-P-M85
Covers the importance of stability in an electronic circuit, the differences in oscillator construction, and various types of coupling of energy from the oscillator.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 7 minutes

Validation Data:	Number of learners tested	61
	Low score	80
	High score	100
	Percentage who scored 90% or higher	96.7

Developer: NATTC, NAS, MEMPHIS

Parallel Circuits, P-III-2
Identification Code: CNATT-P-4959
Covers the definition of Kirchoff's laws governing parallel circuits. Covers and provides practice in the application of various laws and formulas to typical parallel circuit problems.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Branching
Average Time Required: 2 hours and 15 minutes

Validation Data:	Number of learners tested	64
	Low score	73
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

Parallel RC Circuits, IB-VII-6
Identification Code: CNATT-M356 PAT
Methods of solving for impedance, current and power in a simple parallel RC circuits. Methods of solving for impedance, current and power in complex parallel RC circuits.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 2 hours and 30 minutes

Validation Data:	Number of learners tested	53
	Low score	20
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Parallel Resonant Circuits, IB-VIII-2
Identification Code: CNATT-P-M52 PAT
Defines and illustrates specific conditions that exist within a parallel circuit while operating at its resonant frequency. A comparison between the resonant characteristics of a series and a parallel circuit is outlined; also a graphical comparison of their frequency response curves is presented. Covers the procedures required to solve for circuit component values at resonance.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 1 hour and 50 minutes

Validation Data:	Number of learners tested	59
	Low score	70
	High score	100
	Percentage who scored 90% or higher	97

Developer: NATTC, NAS, MEMPHIS

Parallel Resonant Circuits, P-IX-4
Identification Code: CNATT-M115 PAT
Covers: The solution of parallel resonant circuits for resonant frequency, inductive reactance, capacitive reactance, current, circuit Q, impedance, and power. A comparison of conditions in series and parallel resonant circuits. The uses of resonant circuits.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 2 hours and 10 minutes

Validation Data:	Number of learners tested	50
	Low score	76
	High score	100
	Percentage who scored 90% or higher	98

Developer: NATTC, NAS, MEMPHIS

Parametric Amplifiers, Q-14
Identification Code: CNATT-M234 PAT
The theory of parametric amplifiers and their applications.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	73
	Low score	90
	High score	130
	Percentage who scored 90% or higher	90.4

Developer: NATTC, NAS, MEMPHIS

Pentodes, VT-9
Identification Code: CNATT-M96 PAT
Theory of the pentode vacuum tube and its related circuitry. How to interpret characteristic curves of a pentode as used in tube manuals. Comparison of remote and sharp cutoff characteristic.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	60
	Low score	69
	High score	100
	Percentage who scored 90% or higher	95

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Plane Vectors and Vector Algebra, IB-VI-4
Identification Code: CNATT-M375 PAT
Introduces the rectangular and polar forms of vector notation. Teaches the mechanics of converting from polar to rectangular notation and vice versa. Teaches procedures for addition, subtraction, multiplication and division of vectors.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 2 hours and 15 minutes

Validation Data:		
	Number of learners tested	58
	Low score	85
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

PN Junction Diodes and Rectifier Circuits
Identification Code: None. Use title.
Teaches formation of a PN Junction, effects of forward and reverse bias and diode operating limitations. Teaches purpose of rectifiers and the formulas used to solve for average voltages of a rectifier circuit.
Prepared for: Class A School students
Type of Program: Linesr
Average Time Required: 1 hour and 30 minutes

Validation Data:		
	Number of learners tested	89
	Low score	72
	High score	100
	Percentage who scored 90% or higher	92.12

Developer: NATTC, NAS, JACKSONVILLE

Polyphase A-C Systems, IB-IX-3
Identification Code: CNATT-M297 PAT
Generation of polyphase EMF. Properties of the WYE system. Properties of the DELTA system. Polyphase transformer connection.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 1 hour and 50 minutes

Validation Data:		
	Number of learners tested	55
	Low score	60
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

A-F Power Amplifiers, VT-15
Identification Code: CNATT-M378 PAT
Teaches A-F power amplifier fundamentals, single-ended power amplifiers, push-pull power amplifiers.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 39 minutes

Validation Data:		
	Number of learners tested	60
	Low score	65
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Power Supplies, VT-11
Identification Code: CNATT-P-M87 PAT
Covers: Types and functions of power supplies. The characteristic of a full-wave rectifier power supply.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 30 minutes
Validation Data:

Number of students tested	93
Low score	52.6
High score	100
Percentage who scored 90% or higher	91.3

Developer: NATTC, NAS, MEMPHIS

Power Supply Voltage Regulators
Identification Code: NAVPERS 93600-4
Requirements for voltage regulation and the principles of voltage regulation circuitry operation. The characteristics and functions of circuit components. Physical characteristics and schematic symbols of the gas-filled V.R. tube.
Prepared for: STG Class A-1 School students
Type of Program: Linear
Average Time Required: 2 hours
Validation Data:

Number of learners tested	98
Low score	65
High score	100
Percentage who scored 90% or higher	89

Developer: BUPERS (PERS-C13)

Powers of Ten, P-II-1A
Identification Code: CNATT-P-5238
Covers conversion of numbers to: Specific numbers multiplies by specific powers of 10; and Scientific notation, rounded off to three significant digits. Covers problem solving using powers of 10 and the law of exponents by: Multiplication; Division; Raising a power to the second power; Extraction of square roots; and Various combinations of the preceding.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 50 minutes
Validation Data:

Number of learners tested	52
Low score	31
High score	100
Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Resonance and Series Resonant Circuits, P-IX-3A
Identification Code: CNATT-P-5239
Covers: Series resonance and how to solve various factors in a series LCR circuits at resonance. Circuits Q and how Q affects the bandwidth of a series resonant circuit. Voltage drops and practical uses for series resonant circuits.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 8 minutes
Validation Data:

Number of learners tested	62
Low score	75
High score	100
Percentage who scored 90% or higher	98.3

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Introduction to Radio, VT-17
Identification Code: CNATT-P-M42
Covers the different forms of communication, transmission of radio energy, and fundamental requirements of transmitters and receivers.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 51 minutes

Validation Data:	Number of learners tested	50
	Low score	84
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Programed Maintenance Course for AN/WRT-1 Radio Transmitter
Identification Code: NavPers 93514
Maintenance and troubleshooting of the AN/WRT-1 Single Sideband Transmitter, using the prime equipment, test equipment, and technical manual.
Prepared for: Shipboard OJT students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 12½ minutes
Validation Data: Not available.
Statement of objectives are available in the program.
Developer: BUPERS (PERS-C22)

Programed Maintenance Course for AN/WRT-2 Radio Transmitter
Identification Code: NavPers 93515
Maintenance and troubleshooting of the AN/WRT-2 Single Sideband Transmitter using the prime equipment, test equipment, and technical manual.
Prepared for: Shipboard OJT students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 17½ minutes
Validation Data: Not available.
Statement of objectives are available in the program.
Developer: BUPERS (PERS-C22)

Saturable Reactors, IB-MA-3
Identification Code: CNATT-M331 PAT
Theory of operation of the saturable reactor. Provides an understanding of the types of core construction used in non-linear devices.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 1 hour and 26 minutes

Validation Data:	Number of learners tested	55
	Low score	74
	High score	100
	Percentage who scored 90% or higher	94.5

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Series Circuits, P-III-1
Identification Code: CNATT-P-4960
Covers the definition of a series circuit and the use of subscripts in part identification. Covers the relationship of resistance, voltage, current and power in series circuits. Provides practice in practical application of the laws governing series circuits to typical problems.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Branching
Average Time Required: 3 hours and 5 minutes

Validation Data:	Number of learners tested	64
	Low score	76
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

Series-Parallel Circuits, P-III-3
Identification Code: CNATT-P-5167
Covers: The description of series circuits in parallel. The description of parallel circuits in series. How to solve these types of circuits for E_T, I_T, R_T and P_T. How to solve these types of circuits for E, I, R, and P of individual parts.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 2 hours and 24 minutes

Validation Data:	Number of learners tested	51
	Low score	60
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, MEMPHIS

Series Resonant Circuits, IB-VIII-1
Identification Code: CNATT-M184 PAT
Characteristics of a series resonant circuit. How to determine the resonant frequency of a series LC circuit. Impedance, current, and voltage characteristics of a series resonant circuit.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 1 hour and 31 minutes

Validation Data:	Number of learners tested	50
	Low score	70
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

Fundamentals of Servo Systems, Q-9
Identification Code: CNATT-M209 PAT
Construction and operation of servo systems. Adjustments for servo systems. Correction of errors in servo systems. Definition of terms used in servo systems.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 43 minutes

Validation Data:	Number of learners tested	73
	Low score	70
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Servo Systems Special Circuits, Q-10
Identification Code: CNATT-M210 PAT
Purpose of servo system special circuits. Definition and operation of modulators and demodulators employed in servo systems. Construction and operation of saturable reactors and magnetic amplifiers. Advantages of magnetic amplifiers over other types of amplifiers.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 25 minutes

Validation Data:	Number of learners tested	55
	Low score	64
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

Single Sideband Theory, N-1
Identification Code: CNATT-M397 PAT
Reviews A-M communications theory. Introduces SSB communications theory. Compares SSB to A-M as to advantages and disadvantages. Explains special requirements and special circuits as applied to SSB equipment.
Prepared for: Aviation Electronics Technician School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 26 minutes

Validation Data:	Number of learners tested	53
	Low score	90
	High score	100
	Percentage who scored 90% or higher	100

Developer: NATTC, NAS, MEMPHIS

Generation of a Sine Wave, P-VII-1
Identification Code: CNATT-P-5032 PAT
Provides the basis for understanding generation of a sine wave. Covers the relationships existing between currents, voltages, and impedances in a-c circuits. Provides practice in plotting a sine wave on a line graph.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 2 hours and 35 minutes

Validation Data:	Number of learners tested	50
	Low score	44
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Source Characteristics and Voltage Dividers, IB-II-8
Identification Code: CNATT-M360 PAT
The effect of source resistance on source voltage. The percentage of efficiency required for the three major circuits. Solving voltage dividers for I_b, using Kirchoff's law. Solving voltage dividers for various unknowns.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 3 hours and 29 minutes

Validation Data:	Number of learners tested	69
	Low score	74
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Statics, P-I-2R; Dynamics, P-I-3R
Identification Code: CNATT-M104 PAT
Electricity, how it is produced, and how it is transferred. The effects of atmospheric pressure and humidity on electronic equipment and the methods used to control them. Dynamic electricity and electromotive force. Electron theory of current flow, the difference between an ampere and a coulomb, the symbols used, and the unit of measurement. Electrical resistance (opposition to current flow), the symbols used, and the unit of measurement.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 45 minutes
Validation Data:

Number of learners tested	57
Low score	60
High score	100
Percentage who scored 90% or higher	91

Developer: NATTC, NAS, MEMPHIS

Subtractors, D-10B
Identification Code: CNATT-M393 PAT
Teaches the construction of truth tables for subtractor circuits. Teaches subtractor logic circuitry.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 50 minutes
Validation Data:

Number of learners tested	53
Low score	75
High score	100
Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Synchro Control Transformer, Q-3
Identification Code: CNATT-M100 PAT
Definition and use of synchro control transformers. Definition, proper connections, theory of operation, and description of synchro capacitors.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 36 minutes
Validation Data:

Number of learners tested	50
Low score	69
High score	100
Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

Simple Synchro Operation and Application, Q-1
Identification Code: CNATT-M233 PAT
Principles of operation and the application of simple synchros. Electrical and mechanical operation and provides practice in solving problems of induced voltages. Mechanical and electrical operations that take place when the synchro is used to transmit angular position information.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 17 minutes
Validation Data:

Number of learners tested	67
Low score	68
High score	100
Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Synchro Resolvers, Q-4
Identification Code: CNATT-M150 PAT
Definition of a synchro resolver. Use and operation of synchro resolvers. Construction and correct alignment procedures for synchro resolvers.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 20 minutes

Validation Data:	Number of learners tested	50
	Low score	69
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Introduction to a TACAN Surface Station, N-5B
Identification Code: CNATT-M205 PAT
Principles of operation of the equipment of a TACAN surface beacon station. Type of modulation and the time relationships of the TACAN transmitted pulses. Relationship of the TACAN surface beacon station to the AN/ARN-21. Includes training film MN-6925C, Ground Aids to Air Navigations, Radio Set AN/URN-3.
Prepared for: Aviation Electronics Technician School, Class A (N-Course), students
Type of Program: Linear
Average Time Required: 57 minutes

Validation Data:	Number of learners tested	76
	Low score	67
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Introduction to a TACAN System, N-5A
Identification Code: CNATT-M204 PAT
History of air navigation and the characteristics of a TACAN system. Advantages of a TACAN system.
Prepared for: Aviation Electronics Technician School, Class A (N Course), students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	69
	Low score	66.8
	High score	100
	Percentage who scored 90% or higher	90

veloper: NATTC, NAS, MEMPHIS

etrodes, VT-8
Identification Code: CNATT-P-M90 PAT
Covers the construction and operating characteristics of the tetrode. Provides a basis for more complete understanding of other vacuum-tube types. Provides an introduction to circuitry normally associated with vacuum tubes.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 14 minutes

Validation Data:	Number of learners tested	60
	Low score	80
	High score	100
	Percentage who scored 90% or higher	95

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Transformers, P-VIII-3
Identification Code: CNATT-M114 PAT
Covers characteristics and types of transformers, transformer losses, and transformer calculations.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Branching
Average Time Required: 1 hour and 5 minutes

Validation Data:	Number of learners tested	57
	Low score	70
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, MEMPHIS

Transformers, IB-IX-1
Identification Code: CNATT-M135 PAT
Construction and theory of operation of a transformer and autotransformer. Relationship of turns, voltage, and current ratios. Impedancy matching and efficiency of a transformer.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 2 hours and 35 minutes

Validation Data:	Number of learners tested	62
	Low score	79
	High score	100
	Percentage who scored 90% or higher	90.5

Developer: NATTC, NAS, MEMPHIS

Transistor Theory - Part I - Introduction to Semiconductors
Identification Code: None. Use title.
Covers important points of atomic structure and emphasizes their significance to semiconductors theory; crystal lattice structure and establishes the concept of free electrons and free holes; effect of adding N-type impurities to the crystal lattice structure and establishes a source of free electrons; effect of adding P-type impurities to the crystal lattice structure and establishes a source of free holes.
Prepared for: Fire Control Technicians (rated and unrated)
Type of Program: Linear
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	66
	Low score	85
	High score	100
	Percentage who scored 90% or higher	95

Developer: FTC, SAN DIEGO

Transistor Theory - Part II - Single Junction Semiconductors
Identification Code: None. Use title.
Covers the electrical charges and current carriers of P-type and N-type germanium; the conditions which exist at the PN junction: defines forward and reverse bias and gives their effects on the PN junction; schematic symbols of the junction diode, Zener diode and photodiode, and teaches schematic drawings of various circuits utilizing these transistors.
Prepared for: Fire Control Technicians
Type of Program: Linear
Average Time Required: 1 hour and 20 minutes

Validation Data:	Number of learners tested	52
	Low score	77
	High score	100
	Percentage who scored 90% or higher	94

Developer: FTC, SAN DIEGO

ELECTRONICS

Transistor Theory - Part III - Multijunction Semiconductors
Identification Code: None. Use title.
Covers the proper biasing potentials and the effect of I_{cbo}; schematic symbols of NPN and PNP; current distribution in a transistor; the importance of the collector dissipation rating.
Prepared for: Fire Control Technicians
Type of Program: Linear
Average Time Required: 1 hour and 20 minutes

Validation Data:	Number of learners tested	59
	Low score	60
	High score	100
	Percentage who scored 90% or higher	95

Developer: FTC, SAN DIEGO

Transistor Theory - Part IV -- Common Emitter Characteristics
Identification Code: None. Use title.
Covers the two common uses of the common-emitter amplifier; the phase relationship and normal range of input and output signals and impedance; the range of current gain (Beta), resistance gain (Ar), and voltage gain (Av) of a common-emitter amplifier; the effect that an increase in collector cut-off current (I_{cbo}) has on a common-emitter amplifier.
Prepared for: Fire Control Technicians
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	60
	Low score	85
	High score	100
	Percentage who scored 90% or higher	95

Developer: FTC, SAN DIEGO

Transistor Theory - Part V -- Tetrode and Field Effect Transistors
Identification Code: None. Use title.
Covers the uses, description, elements, and symbol of a Field Effect Transistor; the uses, description, elements, and symbols of a Tetrode Transistor; the effects of bias on Field Effect Transistors and Tetrode Transistors.
Prepared for: Fire Control Technicians
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	60
	Low score	80
	High score	100
	Percentage who scored 90% or higher	90

Developer: FTC, SAN DIEGO

Transistor Theory and Application - Part VI - Transistor Amplifiers
Identification Code: None. Use title.
Provides a detailed analysis and comparison of the three common types of transistor circuits: common-base, common-emitter, and common-collector.
Prepared for: Fire Control Technicians
Type of Program: Linear
Average Time Required: Not available.
Validation Data: Not available.
Developer: FTC, SAN DIEGO

ELECTRONICS

Transistor Theory and Application - Part VII - Transistor Biasing and Stabilization
Identification Code: None. Use title.
Shows how practical transistor circuits use bias and stabilization methods to compensate for temperature effect.
Prepared for: Fire Control Technicians
Type of Program: Linear
Average Time Required: Not available.
Validation Data: Not available.
Developer: FTC, SAN DIEGO

Transistor Theory and Application - Part VIII - Practical Transistor Amplifiers
Identification Code: None. Use title.
Distinguishes between several of the more common types of amplifiers.
Prepared for: Fire Control Technicians
Type of Program: Linear
Average Time Required: Not available.
Validation Data: Not available.
Developer: FTC, SAN DIEGO

Transistor Theory and Application - Part IX - Sine Wave Oscillators
Identification Code: None. Use title.
Explains the basic differences between commonly used oscillators.
Prepared for: Fire Control Technicians
Type of Program: Linear
Average Time Required: Not available.
Validation Data: Not available.
Developer: FTC, SAN DIEGO

Transistor Theory and Application - Part X - Switching, Gating and Pulse Circuits
Identification Code: None. Use title
Discusses the three circuits listed and explains the basic rudiments of multivibrators.
Prepared for: Fire Control Technicians
Type of Program: Linear
Average Time Required: Not available.
Validation Data: Not available.
Developer: FTC, SAN DIEGO

Traveling-Wave Tubes, Q-13
Identification Code: CNATT-M196 PAT
Explains the basic construction, purpose, and theory of operation of the helix type traveling-wave tube.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 25 minutes

Validation Data:	Number of learners tested	56
	Low score	75
	High score	100
	Percentage who scored 90% or higher	94.6

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Trigonometric Functions and Tables, IB-VI-1
Identification Code: CNATT-M332 PAT
Explains the trigonometric formulas. Use of the trigonometric tables and the solution of right triangles.
Prepared for: Linear
Average Time Required: 2 hours and 7 minutes

Validation Data:	Number of learners tested	53
	Low score	65
	High score	100
	Percentage who scored 90% or higher	89

Developer: NATTC, NAS, MEMPHIS

Triode Amplifiers
Identification Code: NAVPERS 93600-5
Recognition of a triode vacuum tube by physical features and schematic symbol. The operation of a triode in an amplifier circuit. Methods of biasing, coupling, operating characteristics and classes of amplifiers.
Prepared for: STG Class A-1 School students
Type of Program: Linear
Average Time Required: 2 hours

Validation Data:	Number of learners tested	83
	Low score	67
	High score	100
	Percentage who scored 90% or higher	87

Developer: BUPERS (PERS-C13)

Dynamic Characteristics of Triodes, VT-7
Identification Code: CNATT-P-M34 PAT
Covers the voltage distribution in a circuit utilizing a triode; definition, construction, and use of a load line and a dynamic transfer curve.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 28 minutes

Validation Data:	Number of learners tested	53
	Low score	91
	High score	100
	Percentage who scored 90% or higher	100

Developer: NATTC, NAS, MEMPHIS

Static Characteristics of Triodes, VT-6
Identification Code: CNATT-P-5236
Covers the construction and interpretation of triode grid and plate family characteristic curves. A basic concept of the tube constants: mu, R_p, r_p, gm and the relationships of mu, gm and r_p.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 45 minutes

Validation Data:	Number of learners tested	62
	Low score	76
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Troubleshooting Communication Equipment

Identification Code: NavPers 93500
Text applies basic troubleshooting logic to communication equipments in general. AN/URC-32 is used as an application vehicle. Access to the AN/URC-32 technical manual is mandatory. Availability of the AN/URC-32 equipment is beneficial. (Prerequisite: Completion of NavPers 93083A, Troubleshooting Electronic Equipment, or equivalent instruction/experience.)
Prepared for: ET Class A and RM Class B Schools/Fleet Schools students
Type of Program: Linear-Branching
Average Time Required: 3-5 days
Validation Data: Not available.
Statement of objectives are not available from the developer.
Developer: BUPERS (PERS-C22)

Troubleshooting Electronic Equipment

Identification Code: NavPers 93083A (Three Volumes)
Provides instruction on the "why" and "how" of systematic troubleshooting of electronic equipment. Basic principles are applied to analagous situations in a superheterodyne receiver. In the final volume, learners are given three paper troubleshooting problems on an oscilloscope to solve. (Prerequisite: Personnel should have a good background in basic electronic principles and circuits.)
Prepared for: ET Class A, RM Class B and RD Class B Schools/Fleet Schools students
Type of Program: Linear-Branching
Average Time Required: 18 hours
Validation Data: Not available.
Statement of objectives are not available from the developer.
Developer: BUPERS (PERS-C22)

Application of Tuned Circuits, IB-VIII-3

Identification Code: CNATT-M240 PAT
Provides an understanding of the use of band-pass circuits, band-reject circuits, and wavetraps.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 25 minutes

Validation Data:	Number of learners tested	52
	Low score	85
	High score	100
	Percentage who scored 90% or higher	98

Developer: NATTC, NAS, MEMPHIS

Fundamentals of Underwater Fire Control Basic Analog Theory

Identification Code: NavPers 93224 (Volumes 1 through 3)
Describes the operation of synchros, resolvers, and servo amplifiers; covers transistor and feedback theory. Designed to help the trainee by reviewing the operation of many analog components, as well as servo loop theory in general.
Prepared for: FT Class A Phase II, FT School students
Type of Program: Linear
Average Time Required: 80 hours
Validation Data: Not available
Statement of objectives are not available from the developer.
Developer: BUPERS (PERS-C11)

ELECTRONICS

General Theory of Underwater Sound Detection, X-4
Identification Code: CNATT-M214 PAT
Definitions of the following terms: wavelength, frequency, reflection, refraction, attenuation, SONAR, listening, echo-ranging, range-rate, and doppler effect. Basic principles of underwater sound transmission. Basic operation of underwater sound detection equipments.
Prepared for: Aviation Anti-Submarine Warfare Technician School, Class A, students
Type of Program: Linear
Average Time Required: 52 minutes
Validation Data:

Number of learners tested	58
Low score	60
High score	100
Percentage who scored 90% or higher	94.8

Developer: NATTC, NAS, MEMPHIS

Introduction to Vacuum Tubes, VT-1
Identification Code: CNATT-P-5219
The history and development of vacuum tubes. Basic tube uses: (a) rectifiers, (b) amplifiers, and (c) oscillators.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 65 minutes
Validation Data:

Number of learners tested	52
Low score	87
High score	100
Percentage who scored 90% or higher	94.2

Developer: NATTC, NAS, MEMPHIS

Voltage Amplifiers, VT-13
Identification Code: CNATT-P-M50 PAT
Covers the principles of amplifier operation. Shows effects of bias on amplifier operation. Shows how the output signal is developed. Shows relationship of mu and actual gain. Stresses importance of proper operation of circuits in regard to distortion.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 10 minutes
Validation Data:

Number of learners tested	58
Low score	66
High score	100
Percentage who scored 90% or higher	91.3

Developer: NATTC, NAS, MEMPHIS

Voltage Dividers, P-III-5
Identification Code: CNATT-M30 PAT
Determine current through each part of the circuit. Determine voltage across each part of the circuit. Compute required resistance of each resistor in the circuit.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 35 minutes
Validation Data:

Number of learners tested	60
Low score	67
High score	100
Percentage who scored 90% or higher	93.4

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Voltage Regulation and VR Tubes, VT-5
Identification Code: CNATT-P-M2 PAT
Explains the need for voltage regulation. Gives a simplified explanation of electronic voltage regulation. Covers V-R tube operation. Covers how the voltage regulator tube is used in a practical circuit.
Prepared for: Avionics Fundamental School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 15 minutes

Validation Data:	Number of learners tested	50
	Low score	80
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, MEMPHIS

Voltage Regulators, P-VI-2
Identification Code: CNATT-P-4979 (Rev. 1-66)
Basic theory and action of motors, converters, inverters, and dynamotors. Purpose and operation of voltage regulators. Purpose and theory of the reverse current relay.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Adjunct-Branching
Average Time Required: 1 hour and 40 minutes

Validation Data:	Number of learners tested	51
	Low score	60
	High score	100
	Percentage who scored 90% or higher	92.1

Developer: NATTC, NAS, MEMPHIS

Voltmeters, P-V-3
Identification Code: CNATT-P-4958
Basic principles of the voltmeter, its sensitivity, and its effect on circuit operation. Methods used for calculating sensitivity and value of resistors. Safety precautions necessary when using the voltmeter.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Branching
Average Time Required: 1 hour and 31 minutes

Validation Data:	Number of learners tested	71
	Low score	69
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Work, Power, Energy (Electrical), P-II-2B
Identification Code: CNATT-P-4956 (Rev. 11-65)
The formula and unit of electrical power and provides practice involving typical problems involving horsepower and watts. The definition of efficiency and the relationship of input to power. Problem solving electrical efficiency.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Branching
Average Time Required: 1 hour

Validation Data:	Number of learners tested	50
	Low score	70
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Work, Power, Energy (Mechanical), P-II-2A
Identification Code: CNATT-P-4947 (Rev. 11-65)
Basic facts about potential and kinetic energy. Relationship of work force, and distance. Calculations involving work and power and introduces mechanical horsepower.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 46 minutes

Validation Data:	Number of learners tested	50
	Low score	70
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

EMERGENCY PROCEDURES

T-34B Emergency Procedures
Identification Code: CNABT-P-672X PAT
The basic procedures which are essential to the safe operation of any aircraft.
Prepared for: Student Naval Aviators
Type of Program: Linear-Branching
Average Time Required: 1 hour and 15 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

EMOTIONAL ADJUSTMENTS

Emotional Adjustments and Escape Reactions Used by Flight Students
Identification Code: CNABT-P-614X PAT
Recall three adjustments to emotional situations. Identify nine escape reactions. Other related areas.
Prepared for: Prospective Flight Instructors
Type of Program: Branching
Average Time Required: 7 minutes
Validation Data: Not available
Developer: NABATRA, NA , PENSACOLA

ENGINEERING MACHINERY

The Fundamentals of Propulsion and Steering
Identification Code: None. Use title.
Explains resistances that ships encounter such as air, wave, eddy and frictional resistance. The program also explains propulsion horsepowers, ship's rudders and steering mechanisms.
Prepared for: Propulsion Engineering Class A School students
Type of Program: Discrimination
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	60
	Low score	74
	High score	100
	Percentage who scored 90% or higher	90

Developer: BUPERS (PERS-C21)

ENGINEERING (MAINTENANCE)

Engineering (Maintenance)
Identification Code: COMTRALANT 20-11
Describes the correct procedures for filling out Shipboard Maintenance Action Forms, Deferred Action Forms, and Work Request Forms.
Prepared for: Engineering Personnel
Type of Program: Linear, Problem Solving
Average Time Required: 3 hours

Validation Data:	Number of learners tested	20
	Low score	75
	High score	100
	Percentage who scored 90% or higher	85

Developer: FTC, NEWPORT

FASTENERS

Common Fabric Fasteners
Identification Code: CNATT-L18 PAT
Discusses numerous types of commercial fasteners available for use in repairing aircrew survival equipment. Covers mainly the step-by-step procedures involved in setting snaps and how to sew in a zipper. (Relates to any sewing experience)
Prepared for: Class A School students
Type of Program: Linear-Branching
Average Time Required: 2 hours and 30 minutes

Validation Data:	Number of learners tested	67
	Low score	80
	High score	99
	Percentage who scored 90% or higher	89

Developer: NATTC, NAS, LAKEHURST

FINANCIAL COUNSELING

Credit and Interest Program
Identification Code: None. Use title.
To instruct in the computations utilized in obtaining the true annual interest rates based on time payments. It is utilized in training future division officers in the financial counseling area.
Prepared for: Navy Supply Corps School Officer students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 30 minutes
Validation Data: Not available
Statement of objectives are not available from the developer.
Developer: NAVSCSCOL, ATHENS

FIRE FIGHTING

Aircraft Firefighting and Crash Rescue
Identification Code: CNATT-M372 PAT
Covers the fire triangle, the three commonest fire extinguishers used by the Navy, and the four-step method for rescuing aircrewmen from crashed aircraft.
Prepared for: AFUN Class P students
Type of Program: Linear
Average Time Required: 1 hour and 2 minutes

Validation Data:	Number of learners tested	55
	Low score	82.6
	High score	100
	Percentage who scored 90% or higher	98

Developer: NATTC, NAS, MEMPHIS

MB-1 Crash Fire Truck
Identification Code: None. Use title.
Covers nomenclature and operation of the MB-1 crash truck and its associated equipment.
Prepared for: Aviation Boatswain's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 2 hours and 8 minutes

Validation Data:	Number of learners tested	54
	Low score	67
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

MB-5 Crash Truck, Part I (Nomenclature)
Identification Code: None. Use title.

Covers the location and purpose of various structural parts of the new MB-5 crash truck built by the American LaFrance Corporation. This program should be used in conjunction with MB-5 Crash Truck, Part II (Operation).

Prepared for: Aviation Boatswain's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 46 minutes

Validation Data:		
	Number of learners tested	64
	Low score	92
	High score	100
	Percentage who scored 92% or higher	100

Developer: NATTC, NAS, LAKEHURST

MB-5 Crash Truck, Part II (Operation)
Identification Code: None. Use title.

Covers operation of the various components of the truck and duties and responsibilities of the crew member. This program is on the new MB-5 Crash Truck built by the American LaFrance Corp. It should be used in conjunction with the program, The MB-5 crash Truck, Part I (Nomenclature).

Prepared for: Aviation Boatswain's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 20 minutes

Validation Data:		
	Number of learners tested	64
	Low score	80
	High score	99
	Percentage who scored 91% or higher	90

Developer: NATTC, NAS, LAKEHURST

Special Weapons Fires
Identification Code: None. Use title.

Covers description of nuclear weapons, the two components of nuclear weapons which present the most probable hazard in the event of an accident. High explosives in nuclear weapons fires, plutonium, and tactics in fighting nuclear weapons fires. (The Navy Training Film - MD9754, Atomic Weapons and Fire should be used in conjunction with this program.)

Prepared for: Aviation Boatswain's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 39 minutes

Validation Data:		
	Number of learners tested	57
	Low score	90
	High score	100
	Percentage who scored 90% or higher	100

Developer: NATTC, NAS, LAKEHURST

FLIGHT

Theory of Flight
Identification Code: CNATT-M256 PAT
Explains the principles involved in aircraft flight.
Prepared for: AFUN Class P School students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	50
	Low score	52
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

FLIGHT INSTRUMENT PROCEDURES

ADF Procedures
Identification Code: CNAAT P-204 PAT
For information, standardization of instruction, and guidance of students and instructors in the Naval Air Advanced Training Command. It covers ADF orientation, time/distance check concept development, changes in bearing/courses, correction for wind effect when inbound/outbound from station, use of RMI for bearing/course change, and holding pattern depiction on RMI.
Prepared for: Advanced Flight Training Naval Aviator students
Type of Program: Linear
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	35
	Low score	28
	High score	36
	Percentage who scored 90% or higher	97

Developer: NAVANTRA, NAS, CORPUS CHRISTI

IFR Holding Procedures
Identification Code: CNAAT P-207 PAT
For information, standardization of instruction and guidance of students and instructors in the Naval Air Advanced Training Command. Specific objectives are to define the standard and non-standard holding pattern, provide typical holding clearances, illustrate the proper entry procedure, and correct the holding pattern for wind effect.
Prepared for: Advanced Flight Training Naval Aviator students
Type of Program: Linear
Average Time Required: 30 minutes

Validation Data:	Number of learners tested	35
	Low score	25
	High score	35
	Percentage who scored 90% or higher	86

Developer: NAVANTRA, NAS, CORPUS CHRISTI

IFR Two-Way Voice Failure Procedures
Identification Code: CNAAT P-206 PAT
For information, standardization of instruction, and guidance of students and instructors in the Naval Air Advanced Training Command. It illustrates proper procedure during two-way voice communication failure in both VFR and IFR conditions. The factors considered are route, altitude, estimated time of arrival, holding, approach and radar vectors.
Prepared for: Advanced Flight Training Naval Aviator students
Type of Program: Linear
Average Time Required: 30 minutes

Validation Data:	Number of learners tested	37
	Low score	13
	High score	18
	Percentage who scored 90% or higher	97

Developer: NAVANTRA, NAS, CORPUS CHRISTI

FLIGHT INSTRUMENT PROCEDURES

IFR Voice Procedures
Identification Code: CNAAT P-209 PAT
For information, standardization of instruction, and guidance of students and instructors in the Naval Air Advanced Training Command. It covers aircraft call signs/ground station calls, definitions of words and phrases, compulsory reporting point procedure, and IFR and VFR position reports.
Prepared for: Advanced Flight Training Naval Aviators students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learner tested	35
	Low score	36
	High score	50
	Percentage who scored 90% or higher	70

Developer: NAVANTRA, NAS, CORPUS CHRISTI

Navigational Aids
Identification Code: CNAAT P-205 PAT
For information, standardization of instruction, and guidance of students and instructors in the Naval Air Advanced Training Command. It covers the description of airway route system; important characteristics of VOR, TACAN, VORTAC, Radiobeacon, L/MF range Z Marker, Fan Markers, ILS, UHF/DF, AN/ARA-25 Airborne Homing Adapter; Radar Beacon System; and Radar Assistance. Some of the important characteristics considered are signal propagation power output, frequency range, class power designation, uses, and limitations.
Prepared for: Advanced Flight Training Naval Aviator students
Type of Program: Linear
Average Time Required: 2 hours

Validation Data:	Number of learners tested	32
	Low score	75
	High score	89
	Percentage who scored 90% or higher	84

Developer: NAVANTRA, NAS, CORPUS CHRISTI

FLIGHT PHYSIOLOGY

Acceleration, Flight Physiology
Identification Code: CNABT-P-587X PAT
Definition of linear, radial, and anugular acceleration. Description of the three types of G-forces as to the conditions of flight that cause them and the effects of each type upon the body. The two methods for combating the effects of positive G-forces.
Prepared for: Naval Aviation Schools Command
Type of Program: Linear
Average Time Required: 35 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

FLIGHT PROCEDURES

Division Parade Flight Procedures, Flight Support
Identification Code: CNABT-P-716X PAT
Configurations of the division, take-off and running rendezvous, leading a division, balanced parade positions, parade echelon, section cross-under, Wingman (#2) cross-under, 180 degree break-up and rendezvous, lead change, sequence, and return to home field.
Prepared for: Naval Aviator students
Type of Program: Linear
Average Time Required: 3 hours and 15 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Flight Procedures - Normal Approach (TH-13M)
Identification Code: CNABT-P-588X PAT
To acquire error-free memory of procedures for flying a normal approach. (The student must be able to list all procedures without error for each check point of the approach.)
Prepared for: Helicopter Flight Students
Type of Program: Linear
Average Time Required: 22 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Stalls, Spins, and Landings (Flight Procedures)
Identification Code: CNABT-P-677 PAT
The basic procedures which are essential to the safe operation of any aircraft.
Prepared for: Naval Aviator students
Type of Program: Linear-Branching
Average Time Required: 46 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

VT-1 Flight Procedures
Identification Code: CNABT-P-597X PAT
To assist students in learning procedures and evaluating flight situations. A thorough knowledge of basic procedures is essential to the safe operation of any aircraft.
Prepared for: students in primary flight phase
Type of Program: Linear-Branching
Average Time Required: 41 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

VT-1 Flight Procedures, Precision Stage Maneuvers
Identification Code: CNABT-P-682X PAT
Wave-off: emergency landing practice and unusual attitude such as, nose high, nose extremely high, nose low and inverted.
Prepared for: Naval Aviator students
Type of Program: Linear-Branching
Average Time Required: 1 hour
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

FLIGHT RULES AND REGULATIONS

IFR Approach and Weather Criteria
Identification Code: None. Use title.
Consists of a pre-post examination, learning section, and review, including instrument approaches and landing minimums and weather criteria for IFR clearances.
Prepared for: Jet Aviator students
Type of Program: Linear
Average Time Required: 30 minutes
Validation Data:

Number of learners tested	100
Low score	85
High score	100
Percentage who scored 90% or higher	95

Developer: NAS, KINGSVILLE

Flight Rules and Regulations
Identification Code: CNABT-P-525 PAT
The content of OPNAVINST P3710.7 series and that portion of the Federal Aviation Regulations which deals with general operating and flight rules contained in Part 91.
Prepared for: Naval Flight Officers
Type of Program: Linear-Branching
Average Time Required: 2 hours and 30 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

FLIGHT SUPPORT

T-28 Basic Instruments, Flight Support (Parts I and II)
Identification Code: CNABT-P-641 PAT
Attitude instrument flight, scan, performance, and vision through instruments. Use and limitations of instruments, normal airspeeds and the in-flight reports, instrument check lists, and the report made prior to take-off.
Prepared for: Naval Aviator students
Type of Program: Linear
Average Time Required: 31 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

T-28 Basic Instruments, Flight Support (Part III)
Identification Code: CNABT-P-640 PAT
Information related to straight and level flight, basic transitions, turns, maintaining airspeed, and the one-third rule for leading the roll-out of a constant-angle-of bank turn.
Prepared for: Naval Aviator students
Type of Program: Linear
Average Time Required: 32 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

FRICTION

Friction
Identification Code: CNABT-P-633X PAT
Static, sliding, rolling, and fluid friction. Coefficient of friction and problems using the formula for the coefficient of friction.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 12-15 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

FUEL SYSTEM

A-6A Fuel System Familiarization, Part I
Identification Code: N564
Introduces the fuel tank configuration of the A-6A aircraft to the student and also explains the operation of the fuel gages and switches. The proper sequence for fuel transfer and dumping is explained.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 35 minutes
Validation Data:

Number of learners tested	64
Low score	68
High score	100
Percentage who scored 90% or higher	93

Developer: NAMTRAGRU, NAS, MEMPHIS

GASES

Carbon Dioxide Cylinders and Valves
Identification Code: None. Use title.
Provides information necessary to the proper identification and use of cylinders containing carbon dioxide gas. Specifies ICC standards for the manufacturer of cylinders. Describes the two types of valves used in conjunction with high pressure cylinders.
Prepared for: Class A School students
Type of Program: Linear
Average Time Required: 1 hour
Validation Data: Number of learners tested 60
Low score 57
High score 100
Percentage who scored 90% or higher 84
Developer: NATTC, NAS, LAKEHURST

Compressed Gases
Identification Code: None. Use title.
Description of the characteristics of Carbon Dioxide, Nitrogen and Oxygen in conjunction with the requirements for handling and storage by personnel of the Aircrew Survival Equipmentment rate. Handling and safety precautions are covered in depth.
Prepared for: Class A School students
Type of Program: Linear
Average Time Required: 1 hour
Validation Data: Number of learners tested 64
Low score 68
High score 100
Percentage who scored 90% or higher 92
Developer: NATTC, NAS, LAKEHURST

GEOGRAPHY

Southeast Asia
Identification Code: H-611-06
Designed to orientate the student on the countries of Southeast Asia as to their location, capitals and major cities, terrain features, and climatic conditions.
Prepared for: Enlisted and Junior Officers
Type of Program: Linear
Average Time Required: 51 minutes
Validation Data: Number of learners tested 38
Low score 91
High score 100
Percentage who scored 90% or higher 100
Developer: NAVPHIBSCOL, CORONADO

GRID PLOTTING

Grid Plotting Systems (A CONFIDENTIAL-MODIFIED HANDING AUTHORIZED Program)
Identification Code: NAVPERS 93993
Six parts which cover: Introduction, LTG, GEOREF, COLOR CARTESIAN, UTM and UPS Grid Plotting.
Prepared for: Radarman "A-1" School students
Type of Program: Discrimination Frames
Average Time Required: 4 hours
Validation Data: Number of learners tested 373
Low score 59
High score 100
Percentage who scored 90% or higher 85
Developer: BUPERS (PERS-C22)

GROUND CONTROL

Ground-Controlled Approaches in the T-28 Aircraft
Identification Code: CNABT-P-651X PAT
The procedures necessary for performing ground-controlled approaches in the T-28 aircraft.
Prepared for: Naval Aviator students
Type of Program: Linear
Average Time Required: 20 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

GUIDED MISSILES

Introduction to Air-Launched Guided Missiles
Identification Code: CNATT-N496 PAT
Information given on symbol designations and components of guided missiles. Basic components of the motors. Types of guidance systems.
Prepared for: AO Class A--Phase V School students
Type of Program: Linear
Average Time Required: 21 minutes

Validation Data:		
	Number of learners tested	77
	Low score	94
	High score	100
	Percentage who scored 90% or higher	100

Developer: NATTC, NAS, JACKSONVILLE

Introduction to Air-Launched Guided Missiles
Identification Code: N496
An introduction to air-launched guided missile designation (names), basic components that make up a guided missile, and the basic guidance systems used.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 20 minutes

Validation Data:		
	Number of learners tested	38
	Low score	74
	High score	100
	Percentage who scored 90% or higher	95

Developer: NAMTRAGRU, NAS, MEMPHIS

GUNNERY, AIR-TO-AIR

Gunnery, Course Rules
Identification Code: CNABT-P-659X PAT
Information necessary to operate out of Sherman Field
Prepared for: Naval Aviator students
Type of Program: Linear
Average Time Required: 47 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

HELICOPTER AERODYNAMICS

Helicopter Fundamentals, Rotary Wing Aerodynamics - Part I
Identification Code: CNATT-N391
Covers the fundamentals of rotary wing aerodynamics. It concerns the most desirable shape of airfoil, the reasons for its use, the forces which act upon a helicopter, the relationship and effect of these forces, and some terminology common to helicopter aerodynamics.
Prepared for: NAMTRADETS Class C students
Type of Program: Linear
Average Time Required: 45 minutes
Validation Data:

Number of learners tested	66
Low score	76
High score	100
Percentage who scored 90% or higher	92

Developer: NAMTRAGRU, NAS, MEMPHIS

Helicopter Fundamentals, Rotary Wing Aerodynamic Effects - Part II
Identification Code: CNATT-N392
A continuation of helicopter aerodynamics. It covers dissymmetry of lift, flapping, hunting, autorotation, power settling, torque, etc. Also covers the five most common helicopter configurations.
Prepared for: NAMTRADETS, Class C students
Type of Program: Linear
Average Time Required: 44 minutes
Validation Data:

Number of learners tested	66
Low score	60
High score	100
Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

HELICOPTER

Rotor Fuselage Relationships
Identification Code: CNABT-P-615 PAT
Explains the peculiarities of the system in which the helicopter is suspended from one point beneath the rotor system.
Prepared for: Helicopter Flight students
Type of Program: Branching
Average Time Required: 18 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Introduction to the UH-34G Helicopter
Identification Code: CNABT-P-575X PAT
UH-34G nomenclature and the functions of basic aircraft components.
Prepared for: Transitioning Student Helicopter Pilots
Type of Program: Branching
Average Time Required: 30 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

HELICOPTER

The R-1820-84A Engine as Installed in the UH-34G(D) Helicopter
Identification Code: CNABT-P-625 PAT
The Wright R-1820-84A, nine cylinder, air-cooled, single-row radial engine.
Prepared for: Helicopter Flight students
Type of Program: Branching
Average Time Required: 35 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Fluid Phase of the Hydromechanical Clutch UH-34G Helicopter
Identification Code: CNABT-P-557 PAT
The nomenclature and operation of the fluid phase of the hydromechanical clutch used in the UH-34G
Prepared for: Helicopter Flight students
Type of Program: Branching
Average Time Required: 23 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

HYPOXIA

Hypoxia
Identification Code: CNABT-P-610X PAT
Define hypoxia. Name the four types with causes. List fiveimportant symptoms. Describe related effects. State measures used to prevent and combat hypoxia. Describe the relationship between hypoxia and hyperventilation.
Prepared for: Naval Aviator students
Type of Program: Linear
Average Time Required: 20 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

INSULATION

Insulation
Identification Code: None. Use title.
Explains the purpose, types, and uses of insulation materials.
Prepared for: Class A School students
Type of Program: Discimination
Average Time Required: 2 hours

Validation Data:	Number of learners tested	50
	Low score	70
	High score	100
	Percentage who scored 90% or higher	86

Developer: BUPERS (PERS-C21)

JET ENGINES

Jet Engines, Basic Prop.
Identification Code: CNABT-P-594X PAT
A means of providing students with an efficient method of mastering a general understanding of the component parts and operation of gas-turbine engines.
Prepared for: Naval Aviator students
Type of Program: Linear
Average Time Required: 5 hours
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Smoke Abatement CI-2
Identification Code: N468
To acquaint the personnel who are responsible for the operation of the servicing equipment and others who are required to store and handle the additive with the correct method of handling, moving, storing, and dangers of contact and inhalation of CI-2. It teaches the symtoms of inhalation or contact on the skin or clothes and the correct personnel and clothing decontamination procedures. Covers the methods to clean up additive spills and the protective clothing that must be worn. The safety precautions that apply are also covered.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:		
	Number of learners tested	52
	Low score	75
	High score	100
	Percentage who scored 90% or higher	93

Developer: NAMTRAGRU, NAS, MEMPHIS

LEADERSHIP

The Enlisted Man (Part 1)
Identification Code: CNABT-P-647X PAT
An officer's relationship with enlisted men; how and when to admonish an enlisted man, place him on report, or place him under arrest. The enlisted service record book and the twelve occupational groups in the Navy.
Prepared for: Naval Aviator students
Type of Program: Branching
Average Time Required: 31 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

The Enlisted Man (Part 2)
Identification Code: CNABT-P-634X PAT
The Navy and Marine Corps enlisted personnel rating structures and enlisted advancement procedures and requirements.
Prepared for: Naval Aviator students
Type of Program: Branching
Average Time Required: 1 hour
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Fitness Reports
Identification Code: CNABT-P-636X PAT
The importance of fitness reports in our careers, what standard is used to evaluate officers on fitness reports, and what kinds of problems are encountered in writing them.
Prepared for: Naval Aviator students
Type of Program: Branching
Average Time Required: 1 hour
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

General Order No. 21
Identification Code: CNABT-P-580X PAT
The overall responsibility of all personnel in the Department of the Navy for maintaining optimum leadership standards.
Prepared for: Naval Aviator students
Type of Program: Linear
Average Time Required: 40 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Indicators of Leadership
Identification Code: CNABT-P-652X PAT
The four indicators of effective leadership: discipline, efficiency, morale, and esprit de corps. What these indicators mean and how they are measured.
Prepared for: Naval Aviator students
Type of Program: Branching
Average Time Required: 31 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

LEADERSHIP

Lawful, Unlawful, and Countermanding Orders
Identification Code: CNABT-P-654X PAT
The basic factors which determine the legality of an order. The bounds which determine if an order is lawful and the proper procedure to follow when receiving a "countermanding" order.
Prepared for: Naval Aviator students
Type of Program: Branching
Average Time Required: 39 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Leadership Concepts, Part I
Identification Code: CNABT-P-699X PAT
Definition of leadership. Concepts of military authority, responsibility, and accountability. Compare similar and dissimilar aspects of civilian and military management practices. Hypothetical leadership problems.
Prepared for: Naval Aviator students
Type of Program: Linear
Average Time Required: 21 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Leadership Concepts, Part II
Identification Code: CNABT-P-700X
Definition of leadership. Concepts of military authority, responsibility, and accountability. Compare similar and dissimilar aspects of civilian and military management practices. Hypothetical leadership problems.
Prepared for: Naval Aviator students
Type of Program: Linear
Average Time Required: 28 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Leadership Concepts, Part III
Identification Code: CNABT-P-712X PAT
The emphasis of personal example, moral responsibility, and management effectiveness on the part of leaders in respect to naval leadership.
Prepared for: Naval Aviator students
Type of Program: Linear
Average Time Required: 41 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Leadership Concepts, Part IV
Identification Code: CNABT-P-735X PAT
Emphasis of personal example, moral responsibility, and management effectiveness on the part of leaders in respect to naval leadership.
Prepared for: Naval Aviator students
Type of Program: Linear
Average Time Required: 40 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

LEADERSHIP

Leadership and General Order No. 21
Identification Code: CNABT-P-667X PAT
The meaning of leadership. The decline of military and civilian leadership. General Order No. 21 and its implementation.
Prepared for: Naval Aviator students
Type of Program: Linear-Branching
Average Time Required: 29 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Military Leadership, Basic Concepts
Identification Code: CNABT-P-665X PAT
The purpose and philosophy of military life and the elements which must be considered in the dynamic approach to leadership. Those aspects of military life that differ from the general civilian environment.
Prepared for: Naval Aviator students
Type of Program: Branching
Average Time Required: 1 hour and 15 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Principles of Leadership and the Leader
Identification Code: CNABT-P-643 PAT
The eleven principles of leadership, giving examples of how they are implemented, and the desirable traits of a leader and their relative importance.
Prepared for: Naval Aviator students
Type of Program: Branching
Average Time Required: 1 hour and 10 minutes
Validation Data: Not available
Developer: NABATRA, NAS PENSACOLA

Relations with Contemporaries
Identification Code: CNABT-P-646X PAT
To show how relations with contemporaries come under the heading of leadership.
Prepared for: Naval Aviator students
Type of Program: Branching
Average Time Required: 24 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Relations with Juniors
Identification Code: CNABT-P-666X PAT
How and when to admonish a man, place him on report, or place him under arrest. The leadership skills required to meet the various problems in dealings with enlisted men. Positive and negative approaches in dealing with enlisted men.
Prepared for: Naval Aviator students
Type of Program: Branching
Average Time Required: 1 hour and 10 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

LEADERSHIP

Relations with Seniors
Identification Code: CNABT-P-639X PAT
The necessary skills and traits required to become an efficient and devoted follower.
Prepared for: Naval Aviator students
Type of Program: Branching
Average Time Required: 25 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Techniques of Leadership
Identification Code: CNABT-P-668X PAT
Four techniques of leadership: planning, organization, communications, and human relations. The problem-solving format in leadership problems.
Prepared for: Naval Aviator students
Type of Program: Branching
Average Time Required: 1 hour and 15 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

The U. S. Fighting Man's Code
Identification Code: CNABT-P-669X PAT
The circumstances leading up to and surrounding the promulgation of the Code of Conduct. Purpose of the Code of Conduct. The necessity for training in the Code of Conduct.
Prepared for: Naval Aviator students
Type of Program: Branching
Average Time Required: 1 hour
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

LEARNING

Effective Study Techniques
Identification Code: None. Use title.
Explains the proper ways to study and techniques for improving study habits.
Prepared for: Class A School students
Type of Program: Discrimination
Average Time Required: 1 hour

Validation Data:	Number of learners tested	60
	Low score	90
	High score	100
	Percentage who scored 90% or higher	100

Developer: BUPERS (PERS-C21)

How to Study
Identification Code: CNATT-P-5065
Covers classroom activities, listening, outside study, and answering questions on an examination.
Prepared for: Class A, B, C, D Schools students
Type of Program: Linear - Constructed Response and Discrimination
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	60
	Low score	35
	High score	100
	Percentage who scored 90% or higher	90.8

Developer: NATTC, NAS, MEMPHIS

LEARNING OBJECTIVES

Preparation of Learning Objectives
Identification Code: NavPers 93913
Definition of learning objectives; relationship between terminal and enabling objectives; scope of course, topic, and lesson objectives; behavioral descriptions classified in appropriate categories of learning; sequential steps of learning objective analysis; exercises in the writing of learning objectives. (Based upon NavPers 93510-2, Handbook for Writing Learning Objectives.)
Prepared for: Instructor/Leadership Schools students
Type of Program: Branching-Script
Average Time Required: 3 hours and 37 minutes
Validation Data: Not available
Developer: BUPERS (PERS-C21)

LINEAR SYSTEMS ANALYSIS

LaPlace Transform Solution of Differential Equations
Identification Code: None. Use title.
Introduction to the LaPlace Transform solution of the differential equations arising in the analysis of linear system. (Instructor and student manuals available.)
Prepared for: Naval Postgraduate students
Type of Program: Linear
Average Time Required: 7-15 hours
Validation Data: 90% of 250 students scored 90% or higher
Developer: NAVPGSCOL, MONTEREY

The Signal Flow Graph in Linear Systems Analysis
Identification Code: None. Use title.
Introduction to the Signal Flow Graph as a tool for the analysis of linear systems. (Instructor and student manuals available.)
Prepared for: Naval Postgraduate students
Type of Program: Linear
Average Time Required: 3½-6 hours
Validation Data: Not available
Developer: NAVPGSCOL, MONTEREY

MACHINE

Nomenclature 111W151
Identification Code: None. Use title.
To associate the shape and location of a part to a particular name. All the parts of a Singer sewing machine, 111W151, necessary to learn the line of power, from motor to needle are covered in this program. Illustrated with machine parts. Contains five foldout illustrations of five separate areas of the machine for the student to label and refer to in response to instructions contained in the text.
Prepared for: Class A and Class B School students
Type of Program: Linear
Average Time Required: 2 hours and 30 minutes

Validation Data:	Number of learners tested	50
	Low score	72
	High score	100
	Percentage who scored 90% or higher	88

Developer: NATTC, NAS, LAKEHURST

MAGNETIC ANOMALY DETECTION (MAD)

Introduction to MAD Fundamentals
Identification Code: FAETULANT M-1 6801
Provides the trainee with an understanding of magnetism and the basic principles of Magnetic Anomaly Detection.
Prepared for: Prospective ASW Flight Crews
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	52
	Low score	90
	High score	100
	Percentage who scored 90% or higher	100

Developer: FAETULANT

MAD Signal Interpretation (A CONFIDENTIAL Program)
Identification Code: FAETULANT M-2 6802
Provides the prospective ASW Flight Crew member with a complete understanding of interpretation of magnetic anomaly detection signals.
Prepared for: Prospective ASW Flight Crews
Type of Program: Linear
Average Time Required: 48 minutes

Validation Data:	Number of learners tested	50
	Low score	88
	High score	100
	Percentage who scored 90% or higher	90

Developer: FAETULANT

MAIN SHAFTING AND BEARINGS

Main Shafting and Bearings
Identification Code: None. Use title.
Explains the purpose and construction of main shafting and bearings.
Prepared for: Propulsion Engineering Class A School students
Type of Program: Discrimination
Average Time Required: 2 hours

Validation Data:	Number of learners tested	64
	Low score	70
	High score	100
	Percentage who scored 90% or higher	87

Developer: BUPERS (PERS-C21)

MAINTENANCE

Maintenance Action Form
Identification Code: CNATT-P-4970 (Rev. 5-69)
Aids students in developing the ability to properly complete entries in Maintenance Action Forms.
Prepared for: NAMTRADETS students
Type of Program: Linear-Branching
Average Time Required: 2 hours and 20 minutes

Validation Data:	Number of learners tested	74
	Low score	83
	High score	100
	Percentage who scored 90% or higher	96

Developer: NAMTRAGRU, NAS, MEMPHIS

Programmed Forecast Loran Maintenance Course
Identification Code: J-102-600
Functions and operational maintenance of the AN/UPN-12/15 Loran Receiver including a detailed trouble-shooting guide.
Prepared for: Electronic Technicians - Strikers and above
Type of Program: Linear-Branching
Average Time Required: 6 weeks - under average shipboard conditions

Validation Data:	Number of learners tested	20
	Low score	28.5
	High score	93.75
	Percentage who scored 90% or higher	5

Statement of objectives are not available from the developer.
Developer: FTC, NORFOLK

Radar Set AN/SPG-55B ORDALT 5873 Power Sharing Self-Study Maintenance Course
Identification Code: NavPers 94013 - Volume 1, Part 1, Workbook
NavPers 94014 - Volume 1, Part 2, Answer Book
NavPers 94015 - Volume 2, Technical Data Book
NavPers 94016 - Volume 3, Supervisor's Instructions
Contains: overview; troubleshooting of fixed track and jittered track trigger circuits and sharing; final evaluation; and training.
Prepared for: Shipboard Fire Control Technicians (NEC 1165)
Type of Program: Mathetical
Average Time Required: 32 hours

Validation Data:	Number of learners tested	15
	Low score	66
	High score	100
	Percentage who scored 93% or higher	93

Developer: BUPERS (PERS-C12)

MANEUVERING

Maneuvering Board
Identification Code: PRA SD
Teaches the use of Maneuvering Board to assist in tactical maneuvers of ship.
Prepared for: Officer and Enlisted personnel with responsibilities on bridge and in CIC.
Type of Program: Branching
Average Time Required: 4 hours

Validation Data:	Number of learners tested	48
	Low score	60
	High score	100
	Percentage who scored 90% or higher	73

Developer: FAAWTC, SAN DIEGO

ANEUVERING

e Maneuvering Board
entification Code: NavPers 93329, 93329-1, 93330, 93330-1, 93331, 93331-1 (Comprised of three volumes and a panel book. There is no criterion test included.)
lume 1, terms and definitions with speed triangle, relative plot, and three-minute rule.
lume 2, station taking and true wind. Volume III, logarithmic scale, scouting, and desired
nd.
epared for: Junior Officers; CIC Personnel.
pe of Program: Linear-Branching
erage Time Required: 35 hours
lidation Data: Number of learners tested 139
Low score 2.1
High score 4.0
Percentage who scored 90% or higher 46.5
atement of objectives are not available from the developer.
veloper: BUPERS (PERS-C22)

neuvering Board - Plotting and Relative Plot - Volume I
entification Code: None. Use title. (Attn: Code 12)
fines and explains motion, actual and relative; line of sight; true and relative bearings.
also provides practice in converting true bearings to relative and vice versa. (This pro-
am is used outside of class at OCS to provide the student with a basic understanding of the
ndamentals required prior to commencing the maneuvering board classroom work.
epared for: Officer Candidates
pe of Program: Linear
erage Time Required: 30 minutes
lidation Data: Not available
veloper: NAVOCS, NEWPORT

neuvering Board - Plotting and Relative Plot - Volume 2
entification Code: None. Use title. (Attn: Code 12)
plains the construction of the maneuvering board; defines reference and maneuvering ships;
d teaches the student to plot bearings and ranges and to define and determine direction,
stance, and speed of relative motion and closest point of approach. It also provides for
ercise in each of the areas of plotting discussed. (This program is used outside of class
OCS to provide the student with reinforcement of the material presented in class regarding
neuvering board fundamentals.
epared for: Officer Candidates
pe of Program: Linear
erage Time Required: 1 hour
lidation Data: Not available
veloper: NAVOCS, NEWPORT

ARINE CORPS STAFF

rine Corps Staffs
entification Code: CNABT-P-524 PAT
ow the titles of members of the General, Special, and Personal Staffs in the Marine Corps
om the Division/Wing level to the Battalion/Squadron level. Differentiate between chain of
mmand and staff functions.
epared for: Naval Aviators (Marines) students
pe of Program: Linear
erage Time Required: 12 minutes
lidation Data: Not available
veloper: NABATRA, NAS, PENSACOLA

MATHEMATICS

Algebra
Identification Code: None. Use title.
Definition of literal number, arithmetic number, term, factor, and coefficient. Signs of operation, order of operations, and absolute value. Definition and use of exponents. Radicals and roots. Definition of monomials, binomials, trinomials, and polynomials. Definition of equations, when an equation is solved, and how to evaluate equations.
Prepared for: Class A School students
Type of Program: Linear
Average Time Required: 2 hours and 45 minutes
Validation Data: Not available.
Developer: NAVPERSRSCHACT, SAN DIEGO

Algebra
Identification Code: CNABT-P-710X PAT
Signed numbers and the fundamental operations of addition, subtraction, multiplication, and division of these numbers. Grouping symbols and their use. Percentage and its use.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 1 hour and 15 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Fundamental Processes of Algebra
Identification Code: CNATT-J94 PAT
Covers how to solve algebra problems involving monomials and polynomials, using the four fundamental operations of addition, subtraction, multiplication, and division.
Prepared for: Class A School students
Type of Program: Linear
Average Time Required: 2 hours and 20 minutes

Validation Data:	Number of learners tested	80
	Low score	59
	High score	100
	Percentage who scored 90% or higher	93.75

Developer: NATTC, NAS, JACKSONVILLE

Basic Mathematics - Algebraic Expressions
Identification Code: CNATT-P-5274 (Rev. 10-66) PAT
Provides an understanding of the signs and symbols used in the study of algebra.
Prepared for: Class A School students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	85
	Low score	66
	High score	100
	Percentage who scored 90% or higher	94.85

Developer: NATTC, NAS, JACKSONVILLE

MATHEMATICS

Basic Mathematics - Algebraic Equations
Identification Code: CNATT-J76-PAT
Covers how to solve algebraic equations with one unknown, unknowns on both sides of equal sign, fractional equations, and formulas. Teaches removal of signs of grouping from equations.
Prepared for: Class A School students
Type of Program: Linear
Average Time Required: 3 hours and 10 minutes

Validation Data:	Number of learners tested	88
	Low score	82
	High score	100
	Percentage who scored 90% or higher	92.4

Developer: NATTC, NAS, JACKSONVILLE

Basic Mathematics, Angles
Identification Code: CNATT-L8 PAT
Definitions. Labeling angles. Addition and subtraction of angles.
Prepared for: AG Class A School students
Type of Program: Linear-Branching
Average Time Required: 59 minutes

Validation Data:	Number of learners tested	182
	Low score	46
	High score	100
	Percentage who scored 83% or higher	95

Developer: NATTC, NAS, LAKEHURST

Introduction to Arithmetic and Whole Numbers
Identification Code: CNATT-L13 PAT
Definition. Reading whole numbers. Solutions of problems in simple arithmetic.
Prepared for: AG Class A School students
Type of Program: Linear
Average Time Required: 53 minutes

Validation Data:	Number of learners tested	193
	Low score	71
	High score	100
	Percentage who scored 86% or higher	93

Developer: NATTC, NAS, LAKEHURST

Basic Mathematics - Introduction to Arithmetic and Whole Numbers AEA 1-1-2
Identification Code: CNATT-P-5126 PAT
A review of basic arithmetic and the fundamental operations that pertain to whole numbers. Covers the correct sequence of operation when more than one sign of operation is indicated in a problem.
Prepared for: Class A School students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 10 minutes

Validation Data:	Number of learners tested	80
	Low score	82
	High score	100
	Percentage who scored 90% or higher	92.05

Developer: NATTC, NAS, JACKSONVILLE

MATHEMATICS

Basic Mathematics, Decimals
Identification Code: CNATT-L23 PAT
Definitions. Conversion to decimals from fractions and work problems. Solution of problems involving decimals.
Prepared for: AG Class A School students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 2 minutes

Validation Data:	Number of learners tested	100
	Low score	60
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, LAKEHURST

Decimal Fractions
Identification Code: None. Use title.
Decimal definition and changing common fractions to decimal fractions and decimal fractions to common fractions. Addition, subtraction, multiplication, and division of decimal fractions. (Rounding numbers.)
Prepared for: Class A School students
Type of Program: Linear
Average Time Required: 1 hour
Validation Data: Not available
Developer: NAVPERSRSCHACT, SAN DIEGO

Exponents and Powers of Ten
Identification Code: None. Use title.
Explains how to change numbers into powers of ten and vice versa.
Prepared for: Class B School students
Type of Program: Linear
Average Time Required: 52 minutes

Validation Data:	Number of learners tested	53
	Low score	50
	High score	100
	Percentage who scored 90% or higher	75

Developer: NATTC, NAS, LAKEHURST

Basic Mathematics, Fractions
Identification Code: CNATT-P-4968 (Rev. 12-65) PAT
Definitions. Solutions of problems involving fractions.
Prepared for: Aviation Electrician's Mate Class A School students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 40 minutes

Validation Data:	Number of learners tested	83
	Low score	82
	High score	100
	Percentage who scored 90% or higher	93.86

Developer: NATTC, NAS, LAKEHURST

MATHEMATICS

Fractions
Identification Code: None. Use title.
Explains the types of fractions and how to add, subtract, multiply, divide, and raise to a power fractions.
Prepared for: Propulsion Engineering Class A School students
Type of Program: Discrimination
Average Time Required: 3 hours
Validation Data:

Number of learners tested	125
Low score	76
High score	100
Percentage who scored 90% or higher	87

Developer: BUPERS (PERS-C21)

Fractions
Identification Code: None. Use title.
Fraction definition; changing fractions to equivalent fractions; addition, subtraction, and multiplication of some fractions. Prime numbers and prime factors of a number. Reduction of fractions to lowest terms. Common multiple; lowest common multiple and lowest common denominators; addition and subtraction of unlike fractions. Multiplication and division of fractions.
Prepared for: Class A School students
Type of Program: Linear
Average Time Required: 1 hour
Validation Data: Not available
Developer: NAVPERSRSCHACT, SAN DIEGO

Graphing Equations, Mathematics
Identification Code: CNABT-P-693X PAT
Procedures of how to graph an equation and how to read graphs.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 23 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Basic Mathematics, Graphs
Identification Code: CNATT-L15 PAT
Construction of graphs
Prepared for: AG Class A School students
Type of Program: Linear
Average Time Required: 1 hour and 10 minutes
Validation Data:

Number of learners tested	318
Low score	40
High score	100
Percentage who scored 80% or higher	91

Developer: NATTC, NAS, LAKEHURST

MATHEMATICS

Basic Mathematics, Interpolation
Identification Code: CNATT-L5 PAT
Definition. Solution of problems in interpolations.
Prepared for: AG Class A School students
Type of Program: Linear
Average Time Required: 1 hour and 40 minutes
Validation Data:

Number of learners tested	78
Low score	60
High score	100
Percentage who scored 80% or higher	97

Developer: NATTC, NAS, LAKEHURST

Interpolation
Identification Code: None. Use title.
Explains solution of problems in interpolation.
Prepared for: Class A and Class B School students
Type of Program: Linear
Average Time Required: A School - 1 hour and 40 minutes; B School - 1 hour and 8 minutes
Validation Data:

	A SCOL	B SCOL
Number of learners tested	78	51
Low score	60	100
High score	100	100
Percentage who scored 90% or higher	98	100

Developer: NATTC, NAS, LAKEHURST

Simple Linear Equations
Identification Code: None. Use title.
Explains how to solve simple linear equations with one unknown.
Prepared for: Class B School students
Type of Program: Linear
Average Time Required: 55 minutes
Validation Data:

Number of learners tested	4
Low score	80
High score	100
Percentage who scored 90% or higher	98

Developer: NATTC, NAS, LAKEHURST

Mathematics
Identification Code: CNABT-P-529 PAT
Fundamental operations of mathematics
Prepared for: Naval Aviation students
Type of Program: Branching
Average Time Required: 2 hours
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

MATHEMATICS

Prep-Text, Mathematics Series, Volumes 1 through 9
Identification Code: NavPers 93492-1 through 93492-9
Volume 1, Fractions (Part 1), NavPers 93492-1
Volume 2, Fractions (Part 2), NavPers 93492-2
Volume 3, Signed Numbers, NavPers 93492-3
Volume 4, Exponents and Scientific Notation, NavPers 93492-4
Volume 5, Extraction of Square Root, NavPers 93492-5
Volume 6, Algebraic Axioms, NavPers 93492-6
Volume 7, Ratio, Proportions, and Variation, NavPers 93492-7
Volume 8, Logarithms, NavPers 93492-8
Volume 9, Essentials of Trigonometry, NavPers 93492-9
Prepared for: Technical Training, Class A, students
Type of Program: Linear
Average Time Required: 2 hours per volume
Validation Data: Not available
Statement of objectives are available in program.
Developer: BUPERS (PERS-C22)

Prep-Text, Mathematics Series, Vectors, Volume 10
Identification Code: NavPers 93492-10
Use of parallelogram or trigonometric methods to solve for resultant vectors.
Prepared for: Technical Training, Class A, students
Type of Program: Linear and Discrimination
Average Time Required: 8 hours

Validation Data:		
	Number of learners tested	68
	Low score	75
	High score	100

91% of learners scored 85% or higher on post-test; 81%, scored 92% or higher.
Statement of objectives are available in program.
Developer: BUPERS (PERS-C22)

Measurement, English and Metric Systems
Identification Code: None. Use title.
Used in conjunction with the program, "Vectors". It explains the English and Metric Systems of measurement.
Prepared for: Class A School students
Type of Program: Linear-Discrimination
Average Time Required: 43 minutes

Validation Data:		
	Number of learners tested	82
	Low score	75
	High score	100
	Percentage who scored 90% or higher	91.4

Developer: BUPERS (PERS-C21)

Measurement and Vectors
Identification Code: None. Use title.
Explains the English and Metric measurement systems. It also explains scalars and vectors and represents vectors graphically.
Prepared for: Class A School students
Type of Program: Discrimination
Average Time Required: 3 hours

Validation Data:		
	Number of learners tested	56
	Low score	85
	High score	100
	Percentage who scored 90% or higher	96.5

Developer: BUPERS (PERS-C21)

MATHEMATICS

Basic Mathematics, Percentage
Identification Code: CNATT-P-4969 (Rev. 12-65) PAT
Definition. Conversion from decimals to percent. Solution of problems.
Prepared for: AG Class A School students
Type of Program: Linear-Branching
Average Time Required: 55 minutes

Validation Data:	Number of learners tested	156
	Low score	50
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, LAKEHURST

Review of Percentage
Identification Code: None. Use title.
Explains decimals, percents, fractional percents and how to multiply and divide problems of percents.
Prepared for: Class B School students
Type of Program: Linear
Average Time Required: 36 minutes

Validation Data:	Number of learners tested	54
	Low score	50
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, LAKEHURST

Positive Whole Numbers
Identification Code: None. Use title.
Explains arithmetic, literal numbers, grouping symbols, exponents, radicals, and denominate numbers.
Prepared for: Class A School students
Type of Program: Discrimination
Average Time Required: 3 hours

Validation Data:	Number of learners tested	100
	Low score	70
	High score	100
	Percentage who scored 90% or higher	85

Developer: BUPERS (PERS-C21)

Powers of Ten and Metric Prefixes
Identification Code: CNATT-J84 PAT
Method of working with large and small decimal numbers.
Prepared for: Class A School students
Type of Program: Linear
Average Time Required: 2 hours and 25 minutes

Validation Data:	Number of learners tested	73
	Low score	77
	High score	100
	Percentage who scored 90% or higher	91.78

Developer: NATTC, NAS, JACKSONVILLE

MATHEMATICS

Quadratic Equations
Identification Code: CNABT-P-631 PAT
The recognition and solving of quadratic equations and problems involving units.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 17 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Signed Numbers
Identification Code: CNATT-J65 PAT
Solving problems that involve positive and negative numbers by addition, subtraction, multiplication, and division.
Prepared for: Class A School students
Type of Program: Linear
Average Time Required: 1 hour and 30 minutes
Validation Data:

Number of learners tested	93
Low score	73
High score	100
Percentage who scored 90% or higher	91.4

Developer: NATTC, NAS, JACKSONVILLE

Slide Rule
Identification Code: CNABT-P-605 PAT
Upon completion of the text, the student should be able to perform the following operations on the slide rule: read scales, multiply, divide, solve proportions, square, find the square root, cube, find the cube root, and solve combination problems.
Prepared for: Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 38 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Square and Square Root
Identification Code: CNATT-P-5294 PAT
Problem solving involving the squaring of whole numbers and fractions. Problem solving involving extracting the square root of whole numbers and fractions.
Prepared for: Class A School students
Type of Program: Linear
Average Time Required: 1 hour and 38 minutes
Validation Data:

Number of learners tested	76
Low score	83
High score	100
Percentage who scored 90% or higher	93.24

Developer: NATTC, NAS, JACKSONVILLE

MATHEMATICS

Vectors
Identification Code: None. Use title.
Explains scalars and vectors in graphic form. It is used on conjunction with the program, "Measurement, English and Metric Systems".
Prepared for: Class A School students
Type of Program: Discrimination
Average Time Required: 1 hour and 30 minutes
Validation Data: Number of learners tested 56
Low score 85
High score 100
Percentage who scored 90% or higher 96.5
Developer: BUPERS (PERS-C21)

Vectors
Identification Code: CNABT P-681 (Rev. 6-66) PAT
Define the term vector and tell how to represent it graphically. Find the vertical and horizontal components of a vector. Be able to solve for the resultant of two or more vectors and solve practical problems involving vector solutions.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 16 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

MEASURING

Liquid Level Measuring Devices
Identification Code: None. Use title.
Explains the types and uses of gauge glasses and counting rods.
Prepared for: Class A School students
Type of Program: Discrimination
Average Time Required: 2 hours
Validation Data: Number of learners tested 60
Low score 60
High score 100
Percentage who scored 90% or higher 85
Developer: BUPERS (PERS-C21)

Precision Measuring Instruments
Identification Code: None. Use title.
Explains the types, uses, and nomenclature of precision measuring instruments.
Prepared for: Class A School students
Type of Program: Discrimination
Average Time Required: 2 hours
Validation Data: Number of learners tested 82
Low score 80
High score 100
Percentage who scored 90% or higher 90
Developer: BUPERS (PERS-C21)

MECHANICAL

Aircraft Nomenclature
Identification Code: CNATT-M173 PAT
Explains the basic nomenclature of the jet and reciprocating aircraft--both helicopters and fixed wing.
Prepared for: AFUN Class P students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	50
	Low score	52
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, MEMPHIS

Maintenance of Aircraft Arresting Hooks
Identification Code: CNATT-P-5186 PAT
Types of hook assemblies and points. Types of damages and their causes. Inspection of hook assembly, installation of hook point bolts, and safety precautions to be observed.
Prepared for: AMS Class A School students
Type of Program: Linear
Average Time Required: 46 minutes

Validation Data:	Number of learners tested	52
	Low score	85
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Maintenance of Aircraft Control Cables
Identification Code: CNATT-P-5185 PAT
Types of cables, their designation, construction, and how they are measured. Cutting cable, terminal fittings, swaging, and procedures for testing, restretching, cleaning and safety precautions.
Prepared for: AMS Class A School students
Type of Program: Linear
Average Time Required: 1 hour and 9 minutes

Validation Data:	Number of learners tested	57
	Low score	70
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Hacksaws
Identification Code: CNATT-M182 PAT
Gives a description of the basic types of hacksaws. Explains how to select the proper blade. Shows how to saw properly with the hacksaw.
Prepared for: AMFU Class A School students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	66
	Low score	70
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

MECHANICAL

Hammers, Mallets, Vises, and Files
Identification Code: CNATT-P-5295 PAT
Identify, use, and care of hammers, mallets, and files; and the safety precautions pertaining to each.
Prepared for: AMFU Class A School students
Type of Program: Adjunct
Average Time Required: 46 minutes

Validation Data:	Number of learners tested	49
	Low score	90
	High score	100
	Percentage who scored 90% or higher	95

Developer: NATTC, NAS, MEMPHIS

Introduction to Aircraft Jacks
Identification Code: CNATT-P-5208 PAT
Covers different types of aircraft jacks, internal components of aircraft jacks, principles of operation, safety procedures and precautions to observe when using jacks around aircraft.
Prepared for: NAMTRADETS, AMD, and V6 students
Type of Program: Linear
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	54
	Low score	73
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

Jet Power Plant Designations
Identification Code: CNATT-M10
Explains the interpretation of jet-engine designations.
Prepared for: ADJ Class A School students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	50
	Low score	86
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

MECHANICAL

Maintenance of the Life Raft Ejection System

Identification Code: CNATT-M174 PAT
Explains the basics of maintaining a life raft ejection system.
Prepared for: AME Class A School students
Type of Program: Linear
Average Time Required: 1 hour and 8 minutes

Validation Data:	Number of learners tested	52
	Low score	85
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

A Basic Course on Generation and Handling of Liquid Oxygen

Identification Code: CNATT-N17 PAT
Covers two basic techniques in producing liquid oxygen, the physical and chemical properties of liquid oxygen, hazards involved and safety precautions to observe while handling liquid oxygen. It also covers how to control contamination of liquid oxygen and oxygen systems.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	60
	Low score	65
	High score	100
	Percentage who scored 90% or higher	95

Developer: NAMTRAGRU, NAS, MEMPHIS

Maintenance Induced Accidents

Identification Code: CNATT-P-5199 PAT
Understanding of Foreign Object Damage - its causes and effects. Precautions dealing with jet engines, fittings, air and tires; oxygen, air hydraulics, and aircrafts control systems. Raising and lowering aircraft on jacks.
Prepared for: AMS(A), AMH(A), AME(A) School students
Type of Program: Linear
Average Time Required: 1 hour and 5 minutes

Validation Data:	Number of learners tested	56
	Low score	85
	High score	99
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Matter

Identification Code: CNATT-P-5296 PAT
Definition of matter, states of matter and terms related to matter. Magic circle for weight volume, and density. Description of element, compound, molecule, and atom.
Prepared for: AMFU Class A School students
Type of Program: Linear-Branching
Average Time Required: 57 minutes

Validation Data:	Number of learners tested	57
	Low score	68
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

MECHANICAL

Nondestructive Metal Inspections - Part I, Magnetic Particle and Fluorescent Penetrant Methods
Identification Code: CNATT-P-5267 PAT
Factors involved in determining type of inspection to be used. Principle of operation and type of machines used to inspect ferromagnetic materials.
Prepared for: AMS(A), AMH(A), AME(A) School students
Type of Program: Linear
Average Time Required: 59 minutes

Validation Data:		
	Number of learners tested	62
	Low score	80
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Nondestructive Metal Inspections - Part II, Dye Penetrant Inspection
Identification Code: CNATT-P-5233 PAT
Advantages and disadvantages of dye penetrant inspection. Precautions to be observed, methods of applying, four steps in performing a dye penetrant inspection. Appearance of defect with dye penetrate inspections.
Prepared for: AMS(A), AMH(A), AME(A) School students
Type of Program: Linear
Average Time Required: 1 hour and 3 minutes

Validation Data:		
	Number of learners tested	62
	Low score	50
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

Oxyacetylene Welding - Part I - Equipment and Set-Up Procedures
Identification Code: CNATT-M175 PAT
Explains some of the equipment used in oxyacetylene welding and shows how this equipment is set up.
Prepared for: AS Class A School students
Type of Program: Adjunct
Average Time Required: 1 hour and 15 minutes

Validation Data:		
	Number of learners tested	54
	Low score	83
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Oxyacetylene Welding - Part II - Preliminary Welding Procedures
Identification Code: CNATT-M176 PAT
Explains the basic procedures to be followed in using the welding torch.
Prepared for: AS Class A School students
Type of Program: Adjunct
Average Time Required: 1 hour and 25 minutes

Validation Data:		
	Number of learners tested	52
	Low score	87
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

MECHANICAL

Oxyacetylene Welding - Part III - Characteristics of Steel
Identification Code: CNATT-M177 PAT
Explains the characteristics of steels the novice welder might be required to weld.
Prepared for: AS Class A School students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:		
	Number of learners tested	54
	Low score	63
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Oxyacetylene Welding - Part IV - Welding Techniques
Identification Code: CNATT-M178 PAT
Explains and illustrates some of the welding positions to use in making certain weld joints.
Prepared for: AS Class A School students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:		
	Number of learners tested	54
	Low score	84
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, MEMPHIS

Oxyacetylene Welding - Part V - Weld Joints
Identification Code: CNATT-M179 PAT
Explains and illustrates the basic weld joints.
Prepared for: AS Class A School students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:		
	Number of learners tested	54
	Low score	79
	High score	100
	Percentage who scored 90% or higher	95

Developer: NATTC, NAS, MEMPHIS

Oxyacetylene Welding - Part VI - Oxyacetylene Cutting
Identification Code: CNATT-M180 PAT
Explains how metal is cut with an oxyacetylene cutting torch.
Prepared for: AS Class A School students
Type of Program: Adjunct
Average Time Required: 45 minutes

Validation Data:		
	Number of learners tested	54
	Low score	83
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

MECHANICAL

Oxyacetylene Welding - Part VII - Braze Welding and Silver Brazing
Identification Code: CNATT-M181 PAT
Explains the procedures followed in braze welding and silver brazing.
Prepared for: AS Class A School students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	54
	Low score	86
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Preservation of Aircraft
Identification Code: CNATT-P-5293 PAT
Reasons for preservation, types of preservation, and conditions that determine types to be used. Difference between types and factors that govern application. Safety precautions.
Prepared for: AMS(A), AMH(A), AME(A) School students
Type of Program: Linear
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	75
	Low score	56.6
	High score	100
	Percentage who scored 90% or higher	90.7

Developer: NATTC, NAS, MEMPHIS

Rigging Aircraft Control Surfaces
Identification Code: CNATT-P-5213 PAT
Effects of high or low cable tension. Instruments used to determine tension. Precautions and methods of checking control surface throw and freedom of movement.
Prepared for: AMS Class A School
Type of Program: Linear
Average Time Required: 1 hour and 26 minutes

Validation Data:	Number of learners tested	44
	Low score	94
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, MEMPHIS

Aircraft Spark Plugs
Identification Code: CNATT-M109 PAT
The parts of an aircraft spark plug. The operation, maintenance, and care of spark plugs. Procedures for their installation, removal, and storage; and the special tools used in conjunction with aircraft spark plugs.
Prepared for: ADR Class A School students
Type of Program: Linear
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	55
	Low score	77
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

MECHANICAL

Taps and Dies
Identification Code: CNATT-M-111-PAT
Types and sizes of taps and dies. Their care and use, and the safety precautions to observe when using them.
Prepared for: AO Class A School, Phase I, students
Type of Program: Linear
Average Time Required: 55 minutes

Validation Data:	Number of learners tested	80
	Low score	75
	High score	100
	Percentage who scored 90% or higher	97

Developer: NATTC, NAS, MEMPHIS

Aircraft Tires, Tubes and Wheels
Identification Code: CNATT-M-38
Explains the construction, types, inspection, storage, and care of aircraft tires, tubes, and wheels.
Prepared for: AMS (A) and AMH (A) School students
Type of Program: Linear
Average Time Required: 1 hour and 50 minutes

Validation Data:	Number of learners tested	55
	Low score	80
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Basic Characteristics of Turbo Jet Engines
Identification Code: CNATT-P-5039 PAT
The purpose, basic functions, and component sections of both the axial-flow and centrifugal-flow turbo jet engines.
Prepared for: ADJ Class A School students
Type of Program: Linear
Average Time Required: 2 hours and 7 minutes

Validation Data:	Number of learners tested	46
	Low score	80
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, MEMPHIS

Twist Drills
Identification Code: CNATT-M-183 PAT
Gives the nomenclature of a twist drill. Explains how twist drills are sized. Gives safety precautions to follow in using them.
Prepared for: AMFU Class A School students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	66
	Low score	82
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, MEMPHIS

METEOROLOGY

Air Masses

Identification Code: None. Use title.

Definition. Conditions favorable for formation. Classification of air masses by source region, moisture-content, and temperature-contrast. Letter designators and colors. Modification of air masses.

Prepared for: Aerographer's Mate School, Class A, students

Type of Program: Linear

Average Time Required: 1 hour and 5 minutes

Validation Data:	Number of learners tested	48
	Low score	80
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, LAKEHURST

The Atmosphere

Identification Code: CNATT-P-5207 PAT

Definitions. Vertical distribution of atmospheric layers. Gas composition of atmospheric layers and their characteristics and importance. Atmospheric pressure definition and terms.

Prepared for: AG Class A School students

Type of Program: Linear

Average Time Required: 2 hours and 13 minutes

Validation Data:	Number of learners tested	91
	Low score	64
	High score	100
	Percentage who scored 88% or higher	94

Developer: NATTC, NAS, LAKEHURST

The Cold Front

Identification Code: CNATT-L25 PAT

Definitions of cold fronts and squall line. Identification of structure and weather conditions. Flight hazards encountered.

Prepared for: Aerographer's Mate School, Class A, students

Type of Program: Linear

Average Time Required: 59 minutes

Validation Data:	Number of learners tested	56
	Low score	60
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

Cold Front Analysis

Identification Code: CNATT-L26 PAT

Procedure for, and practice in, locating and drawing a cold front on a simple surface weather chart.

Prepared for: Aerographer's Mate School, Class A, students

Type of Program: Linear

Average Time Required: 1 hour and 15 minutes

Validation Data:	Number of learners tested	59
	Low score	75
	High score	100
	Percentage who scored 88% or higher	97

Developer: NATTC, NAS, LAKEHURST

METEOROLOGY

Condensation and Precipitation
Identification Code: None. Use title.
Explains basic situations and elements required for the occurence of condensation and precipitation in the atmosphere.
Prepared for: Class B School students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners	55
	Low score	70
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, LAKEHURST

Earth-Sun Relationships
Identification Code: CNATT-L7 PAT
Definitions. Earth's revolution and rotation. Effect on daily and seasonal changes. Solar radiation.
Prepared for: AG Class A School students
Type of Program: Linear
Average Time Required: 55 minutes

Validation Data:	Number of learners tested	52
	Low score	66
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, LAKEHURST

Fog
Identification Code: None. Use title.
Definition. Types of Fog - formation and location. Dissipation processes.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 47 minutes

Validation Data:	Number of learners tested	80
	Low score	66
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, LAKEHURST

Humidity
Identification Code: CNATT-P-5218 PAT
Definitions of humidity, relative humidity, dew point, specific humidity, mixing ratio, and saturation mixing ratio.
Prepared for: AG Class A School students
Type of Program: Linear
Average Time Required: 56 minutes

Validation Data:	Number of learners tested	82
	Low score	33
	High score	100
	Percentage who scored 100%	89

Developer: NATTC, NAS, LAKEHURST

METEOROLOGY

Isobaric Analysis, Part I
Identification Code: CNATT-L9 PAT
Definitions. Basic approach to isobaric analysis. Analysis of simple weather charts.
Prepared for: AG Class A School students
Type of Program: Linear
Average Time Required: 1 hour and 43 minutes

Validation Data:	Number of learners tested	56
	Low score	76
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, LAKEHURST

Isobaric Analysis, Part II
Identification Code: CNATT-L27 PAT
Procedure for and practice in isobaric analysis of simple weather charts.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 2 hours and 4 minutes

Validation Data:	Number of learners tested	58
	Low score	30
	High score	100
	Percentage who scored 90% or higher	97

Developer: NATTC, NAS, LAKEHURST

Lapse Rates and Stability - Physics of Cloud Formation
Identification Code: CNATT-L28 PAT
Definition of lapse rate and stability. Identification of lapse rates and states of stability. Factors necessary for cloud formation. Cloud types formed from different processes.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 10 minutes

Validation Data:	Number of learners tested	39
	Low score	68
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

Moisture and Change of State
Identification Code: CNABT-P-645X PAT
Definitions of condensation, evaporation, freezing, melting, sublimation, specific humidity, temperature dew point, and water vapor with related problems.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 47 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

METEOROLOGY

The Occluded Front
Identification Code: None. Use title.
Description and methods of formation of occluded fronts both warm and cold types. Horizontal and vertical identifications. Wind and weather characteristics of occluded fronts.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 6 minutes

Validation Data:		
	Number of learners tested	58
	Low score	46
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, LAKEHURST

Occluded-Front Analysis
Identification Code: None. Use title.
Practice in locating an occluded front, and the associated warm and cold fronts, by using single and all weather elements.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 17 minutes

Validation Data:		
	Number of learners tested	46
	Low score	69
	High score	100
	Percentage who scored 90% or higher	89

Developer: NATTC, NAS, LAKEHURST

Primary Circulation
Identification Code: CNATT-L20 PAT
Relationship between pressure and temperature. Meaning of pressure gradient and Coriolus force. Identification of areas of convergence, divergence, convection, and subsidence. Thermal circulation. Wind and pressure belts on rotating earth. Introduction to the jet stream.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 10 minutes

Validation Data:		
	Number of learners tested	85
	Low score	60
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, LAKEHURST

Primary Frontal Zones and Polar Front Theory
Identification Code: CNATT L-21 PAT
Definition. General position and description of major fronts. Stable and unstable wave cyclones.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 38 minutes

Validation Data:		
	Number of learners tested	54
	Low score	79
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, LAKEHURST

METEOROLOGY

Meteorology, Primary
Identification Code: CNABT-P-626X PAT
Basic elements of weather and some general meteorological theory
Prepared for: Student Naval Aviators
Type of Program: Linear-Branching
Average Time Required: 9 hours
Validation Data: Not available.
Developer: NABATRA, NAS, PENSACOLA

Secondary Circulation, Part I
Identification Code: None. Use title.
Identification of high- and low-pressure systems and associated wind fields. Causal factors of the secondary circulation. Identification of major global high- and low-pressure systems.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 11 minutes

Validation Data:	Number of learners tested	59
	Low score	86
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, LAKEHURST

Secondary Circulation, Part II
Identification Code: None. Use title.
Description and identification of geostrophic and gradient windflows. Balance of forces needed to attain geostrophic and gradient windflows. Affect of vertical and horizontal windflow around high- and low-pressure systems. Identification of major ocean currents and their effect on climate. Topographical effects on climate and weather. Identification and description of monsoons.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 23 minutes

Validation Data:	Number of learners tested	61
	Low score	72
	High score	100
	Percentage who scored 90% or higher	97

Developer: NATTC, NAS, LAKEHURST

Tertiary Circulation
Identification Code: None. Use title.
Wind circulations produced by local heating and cooling. Types and causes of turbulence. Definition of gust and squall.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	52
	Low score	72
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

METEOROLOGY

Thunderstorms

Identification Code: CNATT-L22 PAT

Formation and description of different types. Vertical air currents and precipitation in each stage of development. Turbulence and icing. Formation of tornadoes.

Prepared for: Aerographer's Mate School, Class A, students

Type of Program: Linear

Average Time Required: 50 minutes

Validation Data:	Number of learners tested	57
	Low score	79
	High score	100
	Percentage who scored 90% or higher	95

Developer: NATTC, NAS, LAKEHURST

Tropical Storms

Identification Code: None. Use title.

Definition. Areas, causes, and season of development. Stages of development. Weather associated with a tropical cyclone. Characteristics of the eye.

Prepared for: Aerographer's Mate Schools, Class A, students

Type of Program: Linear

Average Time Required: 47 minutes

Validation Data:	Number of learners tested	81
	Low score	75
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, LAKEHURST

Time Zones

Identification Code: None. Use title.

Determination of standard time zones. Conversion of local standard time to Greenwich Mean Time and vice versa. International Date Line.

Prepared for: Aerographer's Mate School, Class A, students

Type of Program: Linear

Average Time Required: 48 minutes

Validation Data:	Number of learners tested	53
	Low score	60
	High score	100
	Percentage who scored 80% or higher	96

Developer: NATTC, NAS, LAKEHURST

Time Zones

Identification Code: None. Use title.

Determination of standard time zones. Conversion of Zone Time to Greenwich Mean Time and vice versa. International Date Line.

Prepared for: E-2, 3 Quartermaster School, Class A, students

Type of Program: Linear

Average Time Required: 48 minutes

Validation Data:	Number of learners tested	53
	Low score	60
	High score	100
	Percentage who scored 90% or higher	96

Developer: FLETRACEN, NAVBASE, NEWPORT

METEOROLOGY

The Warm Front
Identification Code: None. Use title.
Definitions. Identification of structure and weather conditions. Flight dangers encountered.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 39 minutes

Validation Data:	Number of learners tested	57
	Low score	75
	High score	100
	Percentage who scored 88% or higher	96

Developer: NATTC, NAS, LAKEHURST

Warm Front Analysis
Identification Code: None. Use title.
Procedure for, and practice in, locating and drawing a warm front on a simple surface weather chart.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 57 minutes

Validation Data:	Number of learners tested	52
	Low score	88
	High score	100
	Percentage Who scored 88% or higher	100

Developer: NATTC, NAS, LAKEHURST

Warm Fronts (Meteorology)
Identification Code: CNABT-P-655X PAT
Identification of a warm front on the weather map. Characteristics of warm front approach and passage. Three hazards to flight when flying through a warm front.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 34 minutes
Validation Data: Not available.
Developer: NABATRA, NAS, PENSACOLA

METEOROLOGY--SURFACE OBSERVATIONS

Classification of Layers
Identification Code: None. Use title.
Program defines a cloud layer and explains the use of sky cover symbols with single, multiple non-overlapping and multiple overlapping layers.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	80
	Low score	50
	High score	100
	Percentage who scored 90% or higher	89

Developer: NATTC, NAS, LAKEHURST

METEOROLOGY--SURFACE OBSERVATIONS

Cloud Entries WBAN 10A Column 3

Identification Code: None. Use title.

Explains how the height and amount of cloud layers are coded for entry in column 3 of Form WBAN 10A.

Prepared for: Aerographer's Mate School, Class A, students

Type of Program: Linear

Average Time Required: 35 minutes

Validation Data:	Number of learners tested	49
	Low score	80
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

Cloud Entries, WBAN 10A, Column 13

Identification Code: None. Use title.

Explains cloud entries on WBAN 10A form for column 13.

Prepared for: Aerographer's Mate School, Class A, students

Type of Program: Linear

Average Time Required: 40 minutes

Validation Data:	Number of learners tested	54
	Low score	65
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

Cloud Entries, WBAN 10B

Identification Code: None. Use title.

Explains cloud entries on WBAN 10B form.

Prepared for: Aerographer's Mate School, Class A, students

Type of Program: Linear

Average Time Required: 50 minutes

Validation Data:	Number of learners tested	58
	Low score	74
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, LAKEHURST

Cloud Heights and Related Instruments

Identification Code: None. Use title.

Reportable values for cloud heights and methods of determining cloud heights. Includes theory of operation and use of the cloud Height Set AN/GMQ-13 and Ceiling Light Projector ML-121.

Prepared for: Aerographer's Mate School, Class A, students

Type of Program: Linear

Average Time Required: 1 hour and 47 minutes

Validation Data:	Number of learners tested	76
	Low score	73
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, LAKEHURST

METEOROLOGY--SURFACE OBSERVATIONS

Precipitation, Part I
Identification Code: None. Use title.
Definitions. Precipitation measurements with the 4-inch plastic rain gage and tipping-bucket rain gage. Determining water equivalent of solid precipitation.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 51 minutes

Validation Data:	Number of learners tested	62
	Low score	84
	High score	100
	Percentage who scored 90% or higher	97

Developer: NATTC, NAS, LAKEHURST

Precipitation, Part II
Identification Code: None. Use title.
Entry of precipitation data on WBAN forms, 10A and 10B.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 50 minutes

Validation Data:	Number of learners tested	60
	Low score	80
	High score	100
	Percentage who scored 90% or higher	95

Developer: NATTC, NAS, LAKEHURST

Pressure Entries, Part I, WBAN 10B
Identification Code: None. Use title.
Computation of station pressure and entries on WBAN 10B.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 2 hours and 10 minutes

Validation Data:	Number of learners tested	57
	Low score	84
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, LAKEHURST

Pressure Entries, Part II, WBAN 10A
Identification Code: None. Use title.
Completion of column entries for pressure on WBAN Form 10A.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	69
	Low score	75
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

METEOROLOGY--SURFACE OBSERVATIONS

Pressure Instruments (Aneroid Barometer and Open-Scale Barograph)

Identification Code: None. Use title.

Definitions of pressure terms. Component parts of, and determination of pressure from the precision aneroid barometer, and the open-scale barograph.

Prepared for: Aerographer's Mate School, Class A, students

Type of Program: Linear

Average Time Required: 1 hour and 27 minutes

Validation Data:	Number of learners tested	71
	Low score	76
	High score	100
	Percentage who scored 92% or higher	97

Developer: NATTC, NAS, LAKEHURST

Pressure Terms and Instruments

Identification Code: None. Use title.

Definitions of terms peculiar to atmospheric pressure and related pressures. Construction, uses, and operation of the Fortin Mercurial Barometer.

Prepared for: Aerographer's Mate School, Class A, students

Type of Program: Linear

Average Time Required: 1 hour and 45 minutes

Validation Data:	Number of learners tested	61
	Low score	72
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, LAKEHURST

The Psychrometric Computer

Identification Code: None. Use title.

Error of parallax. Use and maintenance of the Psychrometric Computer CP-165A/UM.

Prepared for: Aerographer's Mate School, Class A, students

Type of Program: Linear

Average Time Required: 1 hour and 50 minutes

Validation Data:	Number of learners tested	48
	Low score	75
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, LAKEHURST

Special Observations

Identification Code: None. Use title.

Requirement criteria and elements to be reported in special observations. Entries on WBAN Forms 10A and 10B.

Prepared for: Aerographer's Mate School, Class A, students

Type of Program: Linear

Average Time Required: 1 hour and 28 minutes

Validation Data:	Number of learners tested	45
	Low score	88
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, LAKEHURST

METEOROLOGY--SURFACE OBSERVATIONS

Temperature and Humidity Entries, WBAN 10A and 10B
Identification Code: None. Use title.
Explains temperature and humidity entries on WBAN Forms 10A and 10B.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 25 minutes

Validation Data:	Number of learners tested	68
	Low score	60
	High score	100
	Percentage who scored 90% or higher	89

Developer: NATTC, NAS, LAKEHURST

Temperature Instruments and Observations
Identification Code: None. Use title.
Characteristics, use, and maintenance of standard air thermometers and sling, rotor, and hand-electric psychrometers. Temperature and dew-point readings from the semi-automatic meteorological station AN/GMA-14. Characteristics and location of the instrument shelter.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 38 minutes

Validation Data:	Number of learners tested	50
	Low score	88
	High score	100
	Percentage who scored 92% or higher	90

Developer: NATTC, NAS, LAKEHURST

Visibility Entries
Identification Code: None. Use title.
Determination, selection, and entry of visibility information on WBAN Form 10A.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 31 minutes

Validation Data:	Number of learners tested	63
	Low score	82
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, LAKEHURST

Visibility Observations and Instruments
Identification Code: None. Use title.
Definition and determination of visibility. Use of visual aids and the transmissometer, AN/GMQ-10.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 33 minutes

Validation Data:	Number of learners tested	63
	Low score	73
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

METEOROLOGY--SURFACE OBSERVATIONS

Wind Observations, Part I
Identification Code: None. Use title.
Definition of wind direction. Veering and backing wind, gusts and squalls, wind shifts. Procedure for observing and estimating wind speed and direction. Component parts, principles of operation, and maintenance schedule of Wind Measuring Set AN/UMQ-5C.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 39 minutes

Validation Data:	Number of learners tested	72
	Low score	75
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

Wind Observations, Part II
Identification Code: None. Use title.
Wind entries on WBAN 10A and 10B.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 2 minutes

Validation Data:	Number of learners tested	66
	Low score	75
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, LAKEHURST

Wind Observations, Part III
Identification Code: None. Use title.
Operation and maintenance of the Wind Measuring Set AN/PMQ-3.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 27 minutes

Validation Data:	Number of learners tested	68
	Low score	84
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, LAKEHURST

MILITARY JUSTICE

Uniform Code of Military Justice, Article 15
Identification Code: CNABT-P-581 PAT
Non-judicial punishment. Punishment authorized by Article 15 of the UCMJ. The rights of the accused under Article 15 of the UCMJ.
Prepared for: Basic Naval Aviation Officers School students
Type of Program: Linear
Average Time Required: 21 minutes
Validation Data: Not available.
Developer: NABATRA, NAS, PENSACOLA

MILITARY PLANNING

The Military Planning Process, Fleet Air Operations
Identification Code: CNABT-P-630 PAT
Purpose of the military planning process and directive, steps involved, and composition. Purpose of the annex, appendix, and TAB. How and when directives become effective. Information required to pass a criterion examination.
Prepared for: Basic Naval Aviation Officers School students
Type of Program: Linear
Average Time Required: 15 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

MOTION

Motion
Identification Code: CNABT-P-619X PAT
A study of the six basic motion formulas.
Prepared for: Naval Aviator students/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 18 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

MOTORS

DC and AC Motors
Identification Code: CNABT-P-624X PAT
Current-carrying conductors, Lenz's Law, types of DC motors, and rotating magnetic field
Prepared for: Basic Naval Aviation Officers School students
Type of Program: Branching
Average Time Required: 1 hour
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

MUNITIONS

Introduction to Aircraft Bombs
Identification Code: CNATT-J36 PAT
Purposes of aircraft bombs. Different classes of aircraft bombs. Components of aircraft bombs. Safety precautions.
Prepared for: Class A and B Ordnance Schools students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	93
	Low score	75
	High score	100
	Percentage who scored 90% or higher	90.32

Developer: NATTC, NAS, JACKSONVILLE

MUNITIONS

Introduction to Aircraft Rockets
Identification Code: CNATT-P-4999 PAT
Introduction of aircraft rockets. Types of aircraft rockets and their sizes. Basic launchers used with aircraft rockets. Safety precautions.
Prepared for: Class A Ordnance School students
Type of Program: Linear
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	85
	Low score	70
	High score	100
	Percentage who scored 90% or higher	95

Developer: NATTC, NAS, JACKSONVILLE

Depth Bombs and Signals Underwater Sound
Identification Code: CNATT-J23 PAT
States the purpose, weight, loading factor, range and method of suspension and hoisting the Mk 54 Depth Bomb. Lists the nose and tail fuze used in the Mk 54 Depth Bomb. States the purpose of the Mk 64 Sound Underwater Signal. Gives the firing depths and explosive of the Mk 64 Sound Underwater Signal. Cover precautions pertaining to depth bombs and SUS's.
Prepared for: Class A and B Ordnance Schools students
Type of Program: Linear
Average Time Required: 35 minutes

Validation Data:	Number of learners tested	114
	Low score	85
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, JACKSONVILLE

2.75-Inch FFAR
Identification Code: CNATT-J40 PAT
Purpose and description of the 2.75-Inch FFAR. Motors, warheads, and fuzes used for 2.75-Inch FFAR. Launcher packages used with 2.75-Inch FFAR. Switching units used for training when firing 2.75-Inch FFAR's. Safety precautions.
Prepared for: Class A and B Ordnance Schools students
Type of Program: Linear
Average Time Required: 1 hour and 40 minutes

Validation Data:	Number of learners tested	98
	Low score	70
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, JACKSONVILLE

Introduction to Army and Navy Fuzes
Identification Code: CNATT-P-5115 PAT
Designed to give a basic knowledge of: Army and Navy fuzes in general and how to differentiate between them. Safety precautions in the handling, storing, and assembly of fuzes. Nomenclature of components and their functions.
Prepared for: Class A and B Ordnance Schools students
Type of Program: Linear
Average Time Required: 59 minutes

Validation Data:	Number of learners tested	164
	Low score	67
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, JACKSONVILLE

MUNITIONS

AN-M103A1 Bomb Nose Fuze
Identification Code: CNATT-J14 PAT
Covers the nomenclature of the fuze components and their cycle of operation, the functioning times, arming times, and the external evidence of arming, and safety precautions pertaining to A/C Nose Fuze AN-M103A1.
Prepared for: Class A and B Ordnance Schools students
Type of Program: Linear
Average Time Required: 43 minutes

Validation Data:	Number of learners tested	91
	Low score	92
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, JACKSONVILLE

AN-M100A2 Series Bomb Tail Fuzes
Identification Code: CNATT-P-5116 PAT
The nomenclature of the fuze components and their cycle of operation. The different primer-detonators used for AN-M100A2 series bomb fuzes also the arming time and external evidence of arming. Safety precautions pertaining to aircraft tail fuze AN-M100A2.
Prepared for: Class A and B Ordnance Schools students
Type of Program: Linear
Average Time Required: 38 minutes

Validation Data:	Number of learners tested	98
	Low score	74
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, JACKSONVILLE

AN-M123A1 Series Bomb Tail Fuzes
Identification Code: CNATT-J2 PAT
Covers the nomenclature of the fuze components and their operation, special precautions and handling instructions pertaining to the AN-M123A1 series fuzes, and arming time and delay times.
Prepared for: Class A Ordnance School students
Type of Program: Linear
Average Time Required: 47 minutes

Validation Data:	Number of learners tested	89
	Low score	67
	High score	100
	Percentage who scored 90% or higher	97

Developer: NATTC, NAS, JACKSONVILLE

5.00-Inch HVAR
Identification Code: CNATT-J38 PAT
Description and use of 5.00-inch High Velocity Aircraft Rocket. Motors, warheads, and fuzes associated with 5.00-inch HVAR. Safety and handling precautions.
Prepared for: Class A and B Ordnance Schools students
Type of Program: Linear
Average Time Required: 55 minutes

Validation Data:	Number of learners tested	92
	Low score	77
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, JACKSONVILLE

MUNITIONS

JATO

Identification Code: CN [illegible] 5 PAT

The Mk 6 and Mk 7 JATO Units are covered. The sequence of operation of the Mk 6 JATO Unit is covered. General JATO safety precautions. The JATO components are matched to their uses. Safety precautions pertaining to JATO.

Prepared for: Class A and B Ordnance Schools students
Type of Program: Linear
Average Time Required: 55 minutes

Validation Data:	Number of learners tested	92
	Low score	85
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, JACKSONVILLE

Illuminating Pyrotechnics

Identification Code: CNATT-J4 (Rev. 1-68) PAT

Lists the use, burning time, candlepower and time settings of parachute flares. Lists the weight, candlepower, fuze and photoflash powder in photoflash bombs. Covers safety precautions pertaining to pyrotechnics.

Prepared for: Class A School students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	74
	Low score	73
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, JACKSONVILLE

Marking Pyrotechnics

Identification Code: CNATT-J19 PAT

Description of the method of launching, igniting and burning time of pyrotechnics used for marking a reference point on the water. Safety precautions concerning handling pyrotechnics in general. Dye-marking devices used as marking reference points. Safety precautions pertaining to pyrotechnics.

Prepared for: Class A and B Ordnance Schools students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	161
	Low score	64
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, JACKSONVILLE

Signalling Pyrotechnics

Identification Code: CNATT-P-5117 PAT

Lists three color combinations of the aircraft signal cartridge. Gives burning time, visibility and means of identification of the aircraft signal cartridges. States the mount used by the pyrotechnic pistol. Lists the burning time, visibility, candle power and means of identifying the Mk 13 distress signal. Covers safety precautions pertaining to pyrotechnics.

Prepared for: Class A and B Ordnance Schools students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	122
	Low score	82
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, JACKSONVILLE

MUNITIONS

ZUNI
Identification Code: CNATT-J39 PAT
Description and use of 5.00-inch ZUNI. Motor, warhead, and fuzes associated with ZUNI. Safety precautions.
Prepared for: Class A Ordnance School students
Type of Program: Linear
Average Time Required: 1 hour and 25 minutes

Validation Data:	Number of learners tested	173
	Low score	51
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, JACKSONVILLE

NAVIGATION (AIR)

Introduction to Celestial Navigation
Identification Code: CNABT-P-736X PAT
Celestial equator system of coordinates, principle of altitude differences in locating a line of position, methods of determining location, and other related terminology.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 12 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Cruise Control and the Howgozit; Dead Reckoning Navigation
Identification Code: CNABT-P-679X PAT
Cruise control and the Howgozit. Fuel requirements and use of conversion factors. Parts of the Howgozit curve.
Prepared for: Basic Naval Aviation Officers School students
Type of Program: Linear
Average Time Required: 30 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Dead Reckoning Navigation
Identification Code: CNABT-P-703X PAT
Use of Lambert Conformal Projections DR Procedures. Controlled airspeed problems. Air plot. The Mercator Projection. Interception of moving objects. The Convoy Patrol. Radius of action. Fixed base and moving base or to an alternate airport.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 1 hour and 20 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

High-Altitude Planning, Flight Preparation Navigation
Identification Code: CNABT-P-648 PAT
Optimum altitude at which to conduct a long-range, high-altitude flight. How to select a destination and an alternate airfield intelligently.
Prepared for: Student Naval Aviators
Type of Program: Branching
Average Time Required: 15 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Holding
Identification Code: None. Use title.
Describes purposes of holding patterns, and shows students how to visualize any holding pattern. Program also covers standard holding entries and wind correction techniques.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 40 minutes
Validation Data: Not available
Developer: NAS, KINGSVILLE

NAVIGATION (AIR)

IFR Flight Plans, Departure Procedures, ATC Clearances, Departure Control, ARTCC and Approach Control
Identification Code: None. Use title.
Covers the several controlling agencies connected with Air Traffic Control Centers and the filing of IFR flight plans.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 30 minutes
Validation Data: Not available
Developer: NAS, CHASE FIELD

IFR Terminal Procedures
Identification Code: CNAAT P-215 PAT
Assumptions: TS-2A aircraft in the conterminous U.S. air traffic control system; aircraft is on an IFR flight plan in the low-altitude airway route structure; that the FLIP-TERMINAL charts depict the new landing minima format in accordance with TERPS; and that two-way communications are not impaired. Contents: Arrival procedures; instrument approach, explanation of terms, landing minimums; and arrival action.
Prepared for: Advanced Naval Pilot students
Type of Program: Linear
Average Time Required: 2 hours

Validation Data:	Number of learners tested	100 approx.
	Percentage who scored 90% or higher	70 approx.

Developer: NAVANTRA, CORPUS CHRISTI

Instrument Navigation (F9F Climb Schedule)
Identification Code: None. Use title.
Consists of reading assignments and the use of the U Rest Computer to find TAS, fuel used, and time to climb to given altitude for TF9 aircraft.
Prepared for: Student Jet Aviators
Type of Program: Linear-Branching
Average Time Required: 50 minutes
Validation Data: Not available
Statement of objectives are not available from the developer.
Developer: NAS, KINGSVILLE

Instrument Scan in the TF-9J
Identification Code: None. Use title.
Consists of reading assignments from the Flight Training Instructions TF/AF-9J, CNAAT P-150, followed by questions covering each reading assignment. This program acquaints the student with the "Primary Instrument System of Scanning" and evaluates the place of each flight instrument as it relates to aircraft control in instrument conditions.
Prepared for: Student Jet Aviators
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	105
	Low score	85
	High score	100
	Percentage who scored 90% or higher	98

Statement of objectives are not available from the developer.
Developer: NAS, KINGSVILLE

NAVIGATION (AIR)

Aircraft Instruments and Instrument Scan
Identification Code: None. Use title.
Enables the student to distinguish between control instruments, performance instruments and navigational instruments. It will also give the student advanced training on instrument scan.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 1 hour
Validation Data: Not available
Developer: NAS, CHASE FIELD

T-28 Basic Instruments, Parts IV and V
Identification Code: CNABT-P-686X PAT
Scan, level speed changes, level speed changes in one-half standard rate turns, vertical "S-1" pattern, and vertical "S-3" pattern.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 50 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

T-28 Basic Instruments, Parts VI and VII
Identification Code: CNABT-P-687X PAT
Initial climb to altitude (ICA) and penetration with related procedures.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 40 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

T-28 Basic Instruments, Part VIII
Identification Code: CNABT-P-688X PAT
The Yankee Pattern: the requirements for commencing and the procedures used in each of the maneuvers.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 34 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

T-28 Basic Instruments, Parts IX and X
Identification Code: CNABT-P-689X PAT
Full-panel, unusual attitudes. Partial-panel. Partial-panel, timed turns. Partial-panel, constant-airspeed decents. Partial-panel, constant-airspeed climbs. Partial-panel, unusual attitudes.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 35 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

NAVIGATION (AIR)

T-28 Basic Instruments, Flight Support
Identification Code: CNABT-P-750 PAT
Attitude instrument flight, scan, performance, and vision through instruments. The use and limitations of the following instruments: attitude gyro, altimeter, vertical-speed indicator, airspeed indicator, radio magnetic indicator, turn indicator, and magnetic compass.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 3 hours and 45 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Lines of Position, Dead Reckoning Navigation
Identification Code: CNABT-P-649 PAT
Categories and types of position. Definitions and related problems to true bearing, magnetic bearing, and relative bearing. Plot a fix using three lines of position.
Prepared for: Basic Naval Aviation Officers School students
Type of Program: Linear
Average Time Required: 1 hour and 30 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

The Mirror Landing Pattern
Identification Code: CNABT-P-623X PAT
The mirror pattern altitude, airspeed upwind and in the upwind turn, how to take intervals upwind, the downward leg, the approach turn, and meatball pickup.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 34 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Radar Approaches
Identification Code: CNAAT P-330 PAT (Rev. 7-68)
Prepared with the objective of presenting radar approaches with the specific voice phraseologies used by radar controllers. No attempt was made to describe aircraft airspeeds, power settings, pilot techniques, or procedures to transition to landing configuration. These procedures are contained in the TS-2A Flight Training Instructions and the aircraft NATOPS Flight Manual.
Prepared for: Advanced Multi-Engine Pilot students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	48
	Low score	68
	High score	76
	Percentage who scored 90% or higher	94.74

Developer: NAVANTRA, CORPUS CHRISTI

NAVIGATION (AIR)

The Simulated Carrier Deck Launch and the Normal Landing Pattern
Identification Code: CNABT-P-622X PAT
Procedures used for the simulated carrier deck launch and the normal landing pattern.
Prepared for: Carrier Qualification Phase students
Type of Program: Linear
Average Time Required: 49 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Introduction to TACAN
Identification Code: CNABT-P-740X PAT
Introduction to TACAN instruments and operations.
Prepared for: Helicopter Flight students
Type of Program: Linear
Average Time Required: 25 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Terminal Instrument Approach Publication, Approach Plates
Identification Code: CNABT-P-650X PAT
Necessary instrument procedures. There are two types available: terminal, low altitude approach plates and terminal, high altitude approach plates for high performance, high altitude-type aircraft.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 1 hour and 18 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Time, Flight Preparation Navigation
Identification Code: CNABT-P-680X PAT
Time zones, how to convert local time to GMT and vice versa, local time to Daylight Savings Time. Geographical limits of a time zone.
Prepared for: Basic Naval Aviation Officers School students
Type of Program: Linear
Average Time Required: 23 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

NAVIGATION (LAND)

Map Reading - Military Grid Reference System
Identification Code: NAVPHIBSCOL 5-2
This program covers briefly the UTM Grid System with the objective of the student being able to use the system at the end of the program.
Prepared for: Functional Training Students E2 through O4
Type of Program: Linear
Average Time Required: 1 hour (Range, 15 to 120 minutes according to experience of students)

Validation Data:	Number of learners tested	150
	Low score	40
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAVPHIBSCOL, NAVPHIBASE, NORFOLK

NAVIGATION (SEA)

Basic Navigational Arithmetic
Identification Code: None. Use title.
Addition and subraction of latitude and longitude, determination of differnce in latitude and longitudes, addition and subtraction of time units, reduction of time to the nearest tenth.
Prepared for: Quartermaster School students, SA-SN
Type of Program: Linear
Average Time Required: Not available
Validation Data: Not available
Developer: FLETRACEN, NEWPORT

Basic Navigational Definitions
Identification Code: COMTRALANT 620-1
Definitions. Celestial and electronic navigation, piloting, dead reckoning, axis, poles, parallels, latitude, longitude, meridians, great circles, small circles, rhumb lines, track, heading and bearing.
Prepared for: E-2, 3 Quartermaster School, Class A, students
Type of Program: Linear
Average Time Required: 21-46 minutes

Validation Data:	Number of learners tested	49
	Low score	70
	High score	100
	Percentage who scored 90% or higher	89

Developer: FLETRACEN, NEWPORT

Navigation, Celestial, Reduction, and Plotting of Observations
Identification Code: None. Use title.
Student is guided through complete solution and plotting of a three-star celestial observation, using the HO-214 method. Present format requires 1968 Nautical Almanac. Revision is pending to utilize 1970 almanac.
Prepared for: Midshipmen, U. S. Naval Academy
Type of Program: Linear--Branching
Average Time Required: 3 hours
Validation Data: Not available
Developer: NAVAL ACADEMY, ANNAPOLIS

NAVY TACTICAL DATA SYSTEM (NTDS)

Navy Tactical Data System (NTDS) Display Symbols SY4 (A Confidential Program)
Identification Code: None. Use title.
Designed to teach recognition of NTDS display symbols. Upon completion of the program, the student will be able to name a particular symbol and identify it by configuration when given a list of all NTDS symbols.
Prepared for: NTDS students
Type of Program: Linear
Average Time Required: 1 hour
Validation Data: Number of learners tested 200
Low score 70
High score 98
Percentage who scored 90% or higher 92
Developer: FAAWTC, DAM NECK, VIRGINIA BEACH

NOISE AND HEARING

Noise and Hearing
Identification Code: CNABT-P-603X PAT
The causes of temporary and permanent hearing loss in aviation. The effects of high-intensity noise on human hearing. Stresses the definitions of noise, wound, intensity, cycles per second, and decibels. The methods of preserving and protecting hearing acuity.
Prepared for: Student Naval Aviators/Naval Flight Officers
Type of Program: Linear
Average Time Required: 12 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

NUCLEAR DEFENSE

Basic Atomic Structure and Radioactivity
Identification Code: None. Use title.
Basic structure of the atom; radioactivity; alpha, beta, gamma rays; half life; shielding material.
Prepared for: Two-week NBC Course students
Type of Program: Linear and Linear Discrimination
Average Time Required: 1 hour and 43 minutes
Validation Data: Number of learners tested 30
Low score 72
High score 100
Percentage who scored 92% or higher 90
Developer: FLETRACEN, CHARLESTON

NBC, Introduction to the Atom, Set 1
Identification Code: CNATT-N162 PAT
Written from the NBC point of view and emphasis is made accordingly. Contains information on the components of the atom; stable and unstable atoms; nuclear fission and fusion; critical, supercritical, and subcritical mass; nuclear energy; and isotopes.
Prepared for: NBC Warfare Defense, NAMTRADETS students
Type of Program: Linear
Average Time Required: 1 hour and 15 minutes
Validation Data: Number of learners tested 56
Low score 62
High score 100
Percentage who scored 90% or higher 90
Developer: NAMTRAGRU, NAS, MEMPHIS

NUCLEAR DEFENSE

Nuclear Defense (Part 1)
Identification Code: FAAWTC SDiego PI-4
Identify, from descriptions, three types of nuclear bursts and their characteristics. Also covers effects of nuclear bursts on personnel and ships, terminology peculiar to nuclear defense.
Prepared for: CIC Teams (Naval Officer and Enlisted students)
Type of Program: Linear-Text
Average Time Required: 30 minutes
Validation Data: Number of learners tested 63
Low score 60
High score 100
Percentage who scored 90% or higher 27
Developer: FAAWTC, SAN DIEGO

Nuclear Defense (Part 2) (CIC Procedures) (A Confidential Program)
Identification Code: FAAWTC PI-011
Safety maneuvers at sea in event of nuclear attack; encoding/decoding and plotting of RADFO and NUDET messages.
Prepared for: CIC Team Training--Naval officers and enlisted men
Type of Program: Linear-Loop
Average Time Required: 1 hour
Validation Data: Number of learners tested 78
Low score 48
High score 100
Percentage who scored 90% or higher 41
Developer: FAAWTC, SAN DIEGO

The Effects of Nuclear Weapons, Set 3
Identification Code: CNATT-N-152 PAT
Covers the terms used for measuring the energy yield of nuclear weapons, the three types of nuclear bursts, and the effects of a nuclear burst. It also covers the two classes of nuclear radiation present in nuclear burst, the zones of destruction, and the destructive order of the three types of nuclear bursts.
Prepared for: NBC Warfare Defense, NAMTRADETS students
Type of Program: Linear
Average Time Required: 45 minutes
Validation Data: Number of learners tested 70
Low score 58
High score 100
Percentage who scored 90% or higher 90
Developer: NAMTRAGRU, NAS, MEMPHIS

Radioactivity, Set 2
Identification Code: CNATT-N3 PAT
Covers the definition of nuclear radiation, unstable nucleus, ionization, half-life, half-thickness, and radioactive contamination. It also covers the three forms of nuclear radiation, the electrical charge of each, the effective range of each, and the most effective shielding materials against nuclear radiation.
Prepared for: NBC Warfare Defense, NAMTRADETS students
Type of Program: Linear
Average Time Required: 1 hour and 10 minutes
Validation Data: Number of learners tested 55
Low score 70
High score 100
Percentage who scored 90% or higher 93
Developer: NAMTRAGRU, NAS, MEMPHIS

NURSING CARE

Nursing Care of the Patient with a Myocardial Infarction
Identification Code: None. Use title.
Prepared for: Class A School students, Hospital Corpsmen (on staff) in Hospital or Dispensary
Type of Program: Branching
Average Time Required: 1 hour
Validation Data: Not available
Statement of objectives are not available from the developer.
Developer: BUMED, WASHINGTON, D.C.

ORDNANCE

Fragmentation Bombs

Identification Code: CNATT-J46

Types, loading factors, and explosives used in fragmentation bombs. Two fragmentation bomb clusters are covered, including fuzes used with each. General safety precautions are covered.

Prepared for: AO Class A School, Phase IV, students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	93
	Low score	76
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, JACKSONVILLE

Practice Bombs and Signals

Identification Code: CNATT-J57

The purpose of practice bombs and the nomenclature, plus the safety precautions involved in the handling of practice bombs and the various practice bombs used in the Navy.

Prepared for: AO Class A School, Phase IV, students
Type of Program: Linear
Average Time Required: 35 minutes

Validation Data:	Number of learners tested	83
	Low score	67
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, JACKSONVILLE

Bomb Release Units and Bomb Arming Controls and Units

Identification Code: CNATT-J72

Bomb arming and relase units, operation, purposes, and specifications.

Prepared for: AO Class A Munitions School, Phase IV, students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	64
	Low score	40
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, JACKSONVILLE

Bomb Trucks, Skids, and Their Adapters

Identification Code: None. Use title.

The general characteristics of the Aero 12C, Aero 16B, Aero 21A skids, and the Aero 33C and D bomb trucks. It also teaches the adapters used with each one and its use.

Prepared for: AO Class A Munitions School, Phase IV, students
Type of Program: Linear
Average Time Required: 1 hour and 15 minutes

Validation Data:	Number of learners tested	90
	Low score	66
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, JACKSONVILLE

ORDNANCE

General Purpose and Demolition Bombs
Identification Code: CNATT-J37
General purpose and demolition bombs; their components and fuzes used. Types of suspension and targets are also covered.
Prepared for: AO Class A Munitions School, Phase IV, students
Type of Program: Linear
Average Time Required: 35 minutes
Validation Data:

Number of learners tested	65
Low score	80
High score	100
Percentage who scored 90% or higher	95

Developer: NATTC, NAS, JACKSONVILLE

Boresight Kit MK 3 MOD 0
Identification Code: CNATT-J56
The components, purpose, type of guns with which it can be used, and safety precautions.
Prepared for: AO Class A Munitions School, Phase IV, students
Type of Program: Linear
Average Time Required: 25 minutes
Validation Data:

Number of learners tested	94
Low score	55
High score	100
Percentage who scored 90% or higher	96

Developer: NATTC, NAS, JACKSONVILLE

Aircraft Chemical Tank MK 12 MOD 0
Identification Code: CNATT-J55
The Aero 12 and Aero 14 Tanks; their uses, characteristics, and safety in handling. This is a two-part parogram covering the Aero 14 B Airborne Spray Tank.
Prepared for: AO Class A Munitions School, Phase IV, students
Type of Program: Linear
Average Time Required: 1 hour and 15 minutes
Validation Data:

Number of learners tested	93
Low score	85
High score	100
Percentage who scored 90% or higher	96

Developer: NATTC, NAS, JACKSONVILLE

Explosive Safety Precautions
Identification Code: H-611-04
Designed to teach proper procedures for handling, transporting, and storage of explosives ashore.
Prepared for: Enlisted and Junior Officers
Type of Program: Linear
Average Time Required: 53 minutes
Validation Data:

Number of learners tested	40
Low score	87
High score	100
Percentage who scored 90% or higher	95

Developer: NAVPHIBSCOL, CORONADO

ORDNANCE

Electric Bomb Fuze M990
Identification Code: CNATT-N414
Describes the M990, states the purpose of the fuze, gives the arming time of the fuze, gives the weapons that use the fuze, states how the fuze is armed, and covers how the pilot can change the arming time of the fuze.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	50
	Low score	50
	High score	100
	Percentage who scored 90% or higher	94

Developer: NAMTRAGRU, NAS, MEMPHIS

Mechanical Nose Fuze, M904E2
Identification Code: CNATT-N390
Contains a description of the fuze showing how the fuze functions. It covers the installation of the fuze in a bomb, how the arming wire is installed, how to remove the fuze from a bomb, the functioning times and arming times of the M904E2, and the delay element used in the M904E2.
Prepared for: NAMTRADETS, Class C, students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	48
	Low score	82
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

Mechanical Time Fuze, M907
Identification Code: CNATT-N419
Contains a description of the M907 mechanical time fuze showing how it functions. It covers the installation of the fuze in a bomb, the arming time of the fuze, the weapons that can use the fuze, and the names used with the fuze.
Prepared for: NAMTRADETS, Class C, students
Type of Program: Linear
Average Time Required: 25 minutes

Validation Data:	Number of learners tested	55
	Low score	60
	High score	100
	Percentage who scored 90% or higher	91

Developer: NAMTRAGRU, NAS, MEMPHIS

Introduction to the MK 4 MOD 0 Gun Pod
Identification Code: None. Use title.
Covers the primary and secondary application, why the gun pod was accepted for use, the physical characteristics, the six sub-systems used, gases used to operate the MK 11 MOD 0 gun, how it is fed and operated, and the three functions of the MK 2 MOD 1 loader.
Prepared for: AO Class A School students
Type of Program: Linear
Average Time Required: 30 minutes

Validation Data:	Number of learners tested	84
	Low score	74
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, JACKSONVILLE

ORDNANCE

Aircraft Mines and Torpedoes

Identification Code: CNATT-J48

Aircraft mine and torpedo classification; their type and method of function. Basic safety precaution concerning aircraft mines and torpedoes are also covered.

Prepared for: AO Class A Munitions School, Phase IV, students
Type of Program: Linear
Average Time Required: 30 minutes

Validation Data:	Number of learners tested	80
	Low score	82
	High score	100
	Percentage who scored 90% or higher	95

Developer: NATTC, NAS, JACKSONVILLE

Tow Targets and Cables

Identification Code: CNATT-J68

Terminology, classes, and methods of launching tow targets. Types of tow targets and uses of tow targets in naval aviation.

Prepared for: AO Class A Munitions School, Phase IV, students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	72
	Low score	63
	High score	100
	Percentage who scored 90% or higher	97

Developer: NATTC, NAS, JACKSONVILLE

Associate Tow Target Equipment

Identification Code: CNATT-J49

The associated equipment used with different types of towing operations.

Prepared for: AO Class A Munitions School, Phase IV, students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	104
	Low score	55
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, JACKSONVILLE

ORDNANCE (SMALL ARMS)

Introduction and Nomenclature of Revolver Caliber .38 Special

Identification Code: None. Use title.

The first half of the program covers general characteristics, safety features, and safety precautions to be used during disassembly. The second half covers a breakdown of the weapon with nomenclature of the illustrated parts.

Prepared for: AO Class A School
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	81
	Low score	76
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, JACKSONVILLE

ORDNANCE (SMALL ARMS)

Introduction and Nomenclature of the Caliber .45 Automatic Pistol
Identification Code: None. Use title.
The first half of the program deals with general characteristics, and safety precautions. The second half covers nomenclature of the major parts of the weapon.
Prepared for: AO Class A School students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	60
	Low score	74
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, JACKSONVILLE

Introduction and Nomenclature of the U. S. Rifle 5.56-MM M16 and M16A1
Identification Code: None. Use title
Covers general characteristics and nomenclature of the U.S. Rifle 5.56-MM M16 and M16A1. Illustrates component parts and describes their function. States the reason for the adoption of the M16 and denotes the difference between the M16 and the M16A1.
Prepared for: AO Class A School, Phase III, students
Type of Program: Linear
Average Time Required: 26 minutes

Validation Data:	Number of learners tested	93
	Low score	86
	High score	100
	Percentage who scored 90% or higher	95

Developer: NATTC, NAS, JACKSONVILLE

Small Arms Terminology and Basic Safety
Identification Code: None. Use title.
Covers terminology common to all small arms used in the Navy in relation to nomenclature and definitions of cycle of operations. It also stresses safety precautions to be observed in small arms.
Prepared for: AO Class A School, Phase III, students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	86
	Low score	76
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, JACKSONVILLE

PERSONNEL

Duty Assignment Options
Identification Code: NavPers 94060-1
Contains purpose, eligibility requirements, available benefits, and application procedures for a Duty Assignment Option as contained in Chapter 27, Enlisted Transfer Manual.
Prepared for: YN/PN Class A School students
Type of Program: Linear
Average Time Required: 45 minutes
Validation Data: Number of learners tested 72
Low score 73
High score 100
Percentage who scored 90% or higher 92
Developer: BUPERS (PERS-C21)

Leave and Liberty
Identification Code: NavPers 94033
Contains authority and limitations of liberty. Authority, control, definitions, computation, and disposition of leave. Utilization of forms required in administration of leave.
Pr[illegible] for: YN/PN Class A School students
[illegible] rogram: Linear
[illegible] Required: 6 hours
[illegible] ta: Number of learners tested 69
Low score 81.6
High score 100
Percentage who scored 90% or higher 87
Developer: BUPERS (PERS-C21)

PHOTOGRAPHY

The Basic Camera
Identification Code: CNATT-P17 PAT
Compares the components of a basic camera to those of a human eye. States functions of the components of a basic camera and explains how an image is formed in a camera and can be recorded.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour
Validation Data: Number of learners tested 98
Low score 80
High score 100
Percentage who scored 90% or higher 92
Developer: NATTU, NAS, PENSACOLA

Chemical Mixing and Storage
Identification Code: CNATT-P5-PAT
Explains recommended procedures for mixing, handling, and storage of photographic chemicals.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 45 minutes
Validation Data: Number of learners tested 77
Low score 80
High score 100
Percentage who scored 90% or higher 97
Developer: NATTU, NAS, PENSACOLA

PHOTOGRAPHY

Introduction to Color Photography
Identification Code: CNATT-P4-PAT
States the advantages, cost disadvantage, uses, construction, and types of color film.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 30 minutes
Validation Data:

Number of learners tested	79
Low score	87
High score	100
Percentage who scored 90% or higher	97

Developer: NATTU, NAS, PENSACOLA

Contact Printing
Identification Code: CNATT-P2-PAT
Describes the basic contact printer and its proper operation procedures which result in contact prints.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour
Validation Data:

Number of learners tested	80
Low score	80
High score	100
Percentage who scored 90% or higher	90

Developer: NATTU, NAS, PENSACOLA

Exposure Controls, Factors, and Determining Exposure
Identification Code: Part A - CNATT-P18 PAT
Part B - CNATT-P19 PAT
Introduces the factors to be considered when determining the correct exposure to be used when taking photographs under various daylight sky conditions.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 4 hours
Validation Data:

Number of learners tested	132
Low score	70
High score	100
Percentage who scored 90% or higher	90

Developer: NATTU, NAS, PENSACOLA

Theory of Motion Picture Photography
Identification Code: CNATT-P15 PAT
Explains how a series of still pictures can be used to create illusion of motion. Describes basic operations of cameras used to record and projectors used to project "motion" pictures. Covers relation between rate of picture taking and film projection in producing slow, normal or fast motion on the screen.
Prepared for: Photographer's Mate School, Class A, school
Type of Program: Linear
Average Time Required: 1 hour
Validation Data:

Number of learners tested	78
Low score	70
High score	100
Percentage who scored 90% or higher	96

Developer: NATTU, NAS, PENSACOLA

PHOTOGRAPHY

Motion Picture Shooting Techniques
Identification Code: CNATT-P-4983 PAT
Covers scenes, sequences, and fundamental story-telling techniques. Relates camera position, composition, and lighting for effective motion pictures. Lists common errors in producing motion pictures and their probable causes.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 2 hours

Validation Data:	Number of learners tested	109
	Low score	80
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTU, NAS, PENSACOLA

Negative Materials
Identification Code: CNATT-P11 PAT
Covers construction, types, and characteristics of light sensitive materials used to record negative images.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	72
	Low score	80
	High score	100
	Percentage who scored 90% or higher	95

Developer: NATTU, NAS, PENSACOLA

Negative Processing
Identification Code: CNATT-P8 PAT
Covers recommended methods, procedures, and handling and safety procedures concerning the use of chemical solutions in the negative developing process.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 15 minutes

Validation Data:	Number of learners tested	79
	Low score	80
	High score	100
	Percentage who scored 90% or higher	97

Developer: NATTU, NAS, PENSACOLA

Newsreel Techniques
Identification Code: CNATT-P-4984
Covers basic steps, techniques, and planning for shooting uncontrolled action in preparing a newsreel release.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	106
	Low score	52
	High score	100
	Percentage who scored 90% or higher	86

Developer: NATTU, NAS, PENSACOLA

PHOTOGRAPHY

Numbering, Captioning, and Stamping
Identification Code: CNATT-P9 PAT
States the purpose, components, and proper placement of negative numbers. Explains purpose and components of a caption.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	77
	Low score	58
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTU, NAS, PENSACOLA

Personnel Photography
Identification Code: CNATT-P7 PAT
Explains proper selection of equipment, material and lighting for producing identification pictures and portraits.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 35 minutes

Validation Data:	Number of learners tested	87
	Low score	50
	High score	100
	Percentage who scored 90% or higher	97

Developer: NATTU, NAS, PENSACOLA

Photographic Composition
Identification Code: CNATT-P16 PAT
Covers recommended methods in producing photographs through proper utilization of scene arrangement, camera position, lighting, and angles.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	55
	Low score	70
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTU, NAS, PENSACOLA

The Photographic Development Process
Identification Code: CNATT-P20 PAT
States the purpose, components, issue and storage, and uses of chemical solutions in the photographic development process.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	176
	Low score	75
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTU, NAS, PENSACOLA

PHOTOGRAPHY

Photographic Files and Records
Identification Code: CNATT-P3 PAT
Describes types, purposes and content, and proper methods of filing, recording, and forwarding photographic logs.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour
Validation Data:

Number of learners tested	86
Low score	88
High score	100
Percentage who scored 90% or higher	97

Developer: NATTU, NAS, PENSACOLA

Photographic Filters
Identification Code: CNATT-P21 PAT
Describes and states purpose and function of photographic filters and their applicable uses.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour
Validation Data:

Number of learners tested	67
Low score	70
High score	100
Percentage who scored 90% or higher	90

Developer: NATTU, NAS, PENSACOLA

Positive Materials
Identification Code: CNATT-P10 PAT
Describes various types of light sensitive materials on which a positive image can be recorded.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour
Validation Data:

Number of learners tested	71
Low score	60
High score	100
Percentage who scored 90% or higher	93

Developer: NATTU, NAS, PENSACOLA

Projection Printing
Identification Code: CNATT-J6 PAT
Covers components, functions, and basic operational procedures in projection printing.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 35 minutes
Validation Data:

Number of learners tested	50
Low score	76
High score	100
Percentage who scored 90% or higher	90

Developer: NATTU, NAS, PENSACOLA

PHOTOGRAPHY

Single-Flash Photography
Identification Code: CNATT-P12 PAT
Covers four classes of flashbulbs, their characteristics and peaking time, purposes of synchronizers, uses of the Graflite flashgun, and probable flashbulb accidents and causes; explains the correct f/stop for flash photography.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	158
	Low score	70
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTU, NAS, PENSACOLA

PHYSICS

Physics of the Atmosphere
Identification Code: CNABT-P-607X PAT
Lists the main component gases of the atmosphere and the percentages of each. Explains how atmospheric pressure and temperature vary with altitude along with the effects upon aircrew members. Lists the five gas laws and the significance of each.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 34 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Centripetal Accelerations
Identification Code: CNABT-P-638X PAT
Centripetal and centrifugal forces and formulas. Use and effects of centrifugal force in aviation.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linar
Average Time Required: 16 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Compound Machines, TD-1-7
Identification Code: CNATT-M313 PAT
Definition and use of compound machines. Mathematical computations associated with the use of compound machines.
Prepared for: TRADEVMAN School, Class A, students
Type of Program: Linear
Average Time Required: 32 minutes

Validation Data:	Number of learners tested	39
	Low score	50
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

PHYSICS

Gravity (Physics)
Identification Code: CNABT-P-653X PAT
Newton's Law of Universal Gravitation. The pound as a gravitational (weight) unit. Problems dealing with weight, mass, and gravity. Definition of "G" force.
Prepared for: Student Naval Aviators/Aviation Officer Candidates.
Type of Program: Linear
Average Time Required: 22 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Gyros, Physics
Identification Code: CNABT-P-737X PAT
The gyroscopic properties of a spinning object and the gyroscopic properties used in each aircraft gyro instrument.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 15 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

The Gyroscope and Gyroscopic Properties
Identification Code: CNATT-J13 PAT
Provides instruction on the properties of a spinning mass. Covers rigidity, precession, mechanical drift, and apparent rotation.
Prepared for: Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 1 hour
Validation Data:

Number of learners tested	112
Low score	75
High score	100
Percentage who scored 90% or higher	91.98

Developer: NATTC, NAS, JACKSONVILLE

Heat, Physics
Identification Code: CNABT-P-707X PAT
Definitions of thermal energy, heat, temperature, absolute zero, and specific heat. The four systems of measuring temperature. Problems using the equation relating heat and change in temperature.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 23 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

PHYSICS

Heat and Temperature
Identification Code: CNATT-L11 PAT
Definitions. Conversion of temperature scales. Processes of heat transfer. Change of state.
Prepared for: AG(A) School students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 42 minutes
Validation Data: Number of learners tested 51
Low score 85
High score 100
Percentage who scored 90% or higher 96
Developer: NATTC, NAS, LAKEHURST

Gas Laws
Identification Code: CNATT-L19 PAT
Relationship between vapor pressure, temperature, atmospheric pressure, and water vapor content. Definition, formula and application of Charles' Law, Boyle's Law, Boyle's Corollary Law, and Equation of State. Substituting numerical values in selected formulas for Dalton's Law, Charles's Law, Boyle's Law, and Equation of State.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 35 minutes
Validation Data: Number of learners tested 54
Low score 36
High score 100
Percentage who scored 90% or higher 93
Developer: NATTC, NAS, LAKEHURST

Basic Machines and Applications, TD-I-6
Identification Code: CNATT-M310 PAT
Various types of basic machines. Mathematical computations associated with the use of basic machines.
Prepared for: TRADEVMAN School, Class A, students
Type of Program: Linear
Average Time Required: 54 minutes
Validation Data: Number of learners tested 31
Low score 45
High score 100
Percentage who scored 90% or higher 90.3
Developer: NATTC, NAS, MEMPHIS

Physics, Matter
Identification Code: CNATT-L14 PAT
Definition. Identification of states of matter
Prepared for: AG(A) School, students
Type of Program: Linear-Branching
Average Time Required: 42 minutes
Validation Data: Number of learners tested 218
Low score 52
High score 100
Percentage who scored 83% or higher 95
Six objectives in program with each weighted as 17% of total score.
Developer: NATTC, NAS, LAKEHURST

PHYSICS

Motion, TD-I-2
Identification Code: CNATT-M339 PAT
Covers motion in terms of speed, velocity, distance and displacement. Provides application of linear and angular motion formulas.
Prepared for: TRADEVMAN School, Class A, students
Type of Program: Linear
Average Time Required: 2 hours and 30 minutes

Validation Data:	Number of learners tested	34
	Low score	110
	High score	200
	Percentage who scored 90% or higher	91.4

Developer: NATTC, NAS, MEMPHIS

Physics, Motion
Identification Code: CNATT-L2 PAT
Definitions of speed, velocity and acceleration. Solutions of problems. Newton's Laws of Motion. Centripetal and centrifugal forces.
Prepared for: AG(A) School students
Type of Program: Linear-Branching
Average Time Required: 2 hours and 34 minutes

Validation Data:	Number of learners tested	75
	Low score	60
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

Physics
Identification Code: CNABT-P-604 PAT
To apply the formula for pressure to various hydraulic situations. To use the universal hydraulic formula to solve problems for area, force, piston radius, diameter, and displacement.
Prepared for: Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 8 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Physics
Identification Code: CNABT-P-620X PAT
Definitions of terms; units of length, mass, time in both the English and metric unit systems. Conversion from one unit system to the other. Solution of density and specific gravity problems.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 19 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Physics, Heat Transfer, and Change of State
Identification Code: CNABT-P-697X PAT
The three methods of heat transfer. The six change-of-state processes. Values of heat of fusion and heat of vaporization in both the English and metric systems and related problems.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 24 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

PHYSICS

Sound, Physics
Identification Code: CNABT-P-706X PAT
Fundamentals of sound propagation and transmission, waveform diagrams, speed of sound waves, Doppler effect, and Mach Number.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 20 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Work, Power and Energy, TD-I-3
Identification Code: CNATT-M365 PAT
Provides a basic understanding of work, power and energy. Provides a basic understanding of the relationship between mass and energy.
Prepared for: TRADEVMAN School, Class A, students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	35
	Low score	50
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Work, Power and Energy (Mechanical) - AE
Identification Code: CNATT-P-5272 PAT
Provides instruction on kinetic and potential energy, on work and power, and the unit of measurement that applies to work and power.
Prepared for: Class A School students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 10 minutes

Validation Data:	Number of learners tested	87
	Low score	85
	High score	100
	Percentage who scored 90% or higher	94.2

Developer: NATTC, NAS, JACKSONVILLE

POWER TRANSFER EQUIPMENT

Introduction to Power Transfer Equipment
Identification Code: None. Use title.
Explains the types of steam turbines and their principles of operation.
Prepared for: Class A School students
Type of Program: Discrimination
Average Time Required: 2 hours

Validation Data:	Number of learners tested	82
	Low score	76
	High score	100
	Percentage who scored 90% or higher	87

Developer: BUPERS (PERS-C21)

PRESSURE MEASURING

Pressure Measuring Devices
Identification Code: None. Use title.
Describes the purpose of pressure measuring devices and explains the types of pressure measuring devices.
Prepared for: Basic Propulsion Engineering School, Class "A", students
Type of Program: Discrimination
Average Time Required: 59 minutes

Validation Data:	Number of learners tested	99
	Low score	70
	High score	100
	Percentage who scored 90% or higher	93.18

Developer: BUPERS (PERS-C21)

PROGRAMMED INSTRUCTION

Programmed Instruction
Identification Code: CNATT-P-5009
Presents the basic principles of programming. Teaches the user to determine the method of programming by frame analysis. The technique of administering a program is taught by the SPA method.
Prepared for: Instructor Training School, Class "C", students
Type of Program: Linear-Branching
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	48
	Low score	46
	High score	100
	Percentage who scored 90% or higher	91.7

Developer: NATTC, NAS, MEMPHIS

An Introduction to Programmed Instruction
Identification Code: None. Use title.
Attempts to inform the student about programmed instruction by having him actively participate in a self-study text. Upon completion of the program, the student will be able to state in his own words the: 1. Five teaching principles employed in programmed instruction; 2. Meaning of the technical terms associated with programmed instruction; 3. Two basic types of programs and the characteristics of each; 4. Criterion level established for program acceptance.
Prepared for: All Fleet personnel
Type of Program: Linear-Branching
Average Time Required: 35 minutes

Validation Data:	Number of learners tested	30
	Low score	73
	High score	100
	Percentage who scored 90% or higher	90

Developer: TRALANT, NORFOLK, VIRGINIA

PUBLICATIONS

Naval Warfare Publications, Fleet Air Operations
Identification Code: CNABT-P-616 PAT
Discusses the following facts about NWP series: Purpose, the difference between NWP and NWIP; various allied and fleet publications; four groups by title; means of distribution; how changes are made and information required to pass a criterion examination.
Prepared for: Basic Naval Aviation Officers School, student NFO's
Type of Program: Linear
Average Time Required: 17 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

RADAR ALTIMETER

AN/APN-141(v) Radar Altimeter, Introduction
Identification Code: CNATT-N-366 PAT
Designed to introduce the student to the AN/APN-141(v) radar altimeter, its various components, the altitude modes, ranging modes, and altitude limits. Also covers the basic block diagram of the altimeter system.
Prepared for: NAMTRADETS, Class C, students
Type of Program: Linear
Average Time Required: 35 minutes

Validation Data:	Number of learners tested	80
	Low score	85
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

AN/APN-141(v) Radar Altimeter, Power Supply Operation
Identification Code: CNATT-N160 PAT
Contains a block diagram analysis of the system power supply. Explains the generation and regulation of all voltages required by the system.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	51
	Low score	84
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

AN/APN-141(v) Radar Altimeter, Receiver - Part I
Identification Code: CNATT-N-317 PAT
Analyses the first half of the block diagram of the receiver module in the APN-141.
Prepared for: NAMTRADETS, Class C, students
Type of Program: Linear
Average Time Required: 2 hours

Validation Data:	Number of learners tested	46
	Low score	72
	High score	100
	Percentage who scored 90% or higher	87

Developer: NAMTRAGRU, NAS, MEMPHIS

AN/APN-141(v) Radar Altimeter, Receiver - Part II and Indicator
Identification Code: CNATT-N-318 PAT
Analyzes the second half of the receiver module and indicator block diagrams for the APN-141.
Prepared for: NAMTRADETS, Class C, students
Type of Program: Linear
Average Time Required: 1 hour and 40 minutes

Validation Data:	Number of learners tested	49
	Low score	70
	High score	100
	Percentage who scored 90% or higher	83

Developer: NAMTRAGRU, NAS, MEMPHIS

RADAR ALTIMETER

AN/APN-141(v) Radar Altimeter, Time Comparator
Identification Code: CNATT-N-315 PAT
Provides a theory of operation for the time comparator module in this radar altimeter by block diagram analysis.
Prepared for: NAMTRADETS, Class C, students
Type of Program: Linear
Average Time Required: 1 hour and 10 minutes

Validation Data:	Number of learners tested	49
	Low score	70
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

AN/APN-141(v) Radar Altimeter, Transmission System
Identification Code: CNATT-N-314 PAT
Explains operation of the modulator module and the R.F. switching unit of the AN/APN-141(v) by block diagram analysis.
Prepared for: NAMTRADETS, Class C, students
Type of Program: Linear
Average Time Required: 1 hour and 45 minutes

Validation Data:	Number of learners tested	49
	Low score	66
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

RADAR FUNDAMENTALS

Basic Radar Fundamentals
Identification Code: None. Use title.
Computation of theoretical maximum and minimum range, bearing and range resolution when given pulse width, pulse repetition rate, and beam width.
Prepared for: X-367, CIC enlisted students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	30
	Low score	95
	High score	100
	Percentage who scored 90% or higher	100

Developer: FAAWTC, SAN DIEGO

RADIO COMMUNICATIONS

IFR Two-Way Radio Communications Procedures
Identification Code: CNABT-P-678X PAT
Communications procedures, voice reports under instrument flight rules, and lost-communications procedures.
Prepared for: Naval Aviator students
Type of Program: Linear
Average Time Required: 1 hour and 11 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

RADIOMAN TRAINING

Radioman 3 and 2
Identification Code: NavPers 91403-X
Covers the Radioman career, naval communications, communication security, international Morse Code, the message, radiotelegraph, radiotelephone, antennas and radio wave propagation, radio communication equipment, teletypewriter operation, teletypewriter procedure, administration, safety, and maintenance. (Has five separate volumes (assignments).)
Prepared for: Radioman 3 and 2 Correspondence Course students
Type of Program: Linear
Average Time Required: 75 hours

Validation Data:	Number of learners tested	71
	Low score	73
	High score	98
	Percentage who scored 90% or higher	91

Developer: BUPERS (PERS-C411)

REFRIGERATION

Basic Refrigeration
Identification Code: None. Use title.
To introduce the trainee at Basic Enlisted Submarine School to the refrigeration equipment used aboard submarines. When the trainee completes this lesson he will be able to state the purpose of refrigeration, define the physics of heat with respect to the types of heat, heat flow, heat transfer, and the measurement of heat. The trainee will also be able to list the basic refrigeration system's components and explain the purpose of each.
Prepared for: Basic Enlisted Submarine School students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	209
	Low score	25
	High score	100
	Percentage who scored 90% or higher	77.5

Developer: NAVSUBSCOL, NAVSUBASE, NEW LONDON

RELATIVE MOTION

Introduction to Relative Motion
Identification Code: CNABT-P-644X PAT
Relative motion and how to solve simple intercept problems. Five factors that a navigator must know in order to solve the intercept. Concepts include direction of relative motion, miles of relative motion, and speed of relative motion.
Prepared for: Naval Aviator students
Type of Program: Linear
Average Time Required: 27 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

RESPIRATION AND CIRCULATION

Respiration and Circulation
Identification Code: CNABT-P-611X PAT
Describes the anatomy and physiology of the process of repiration and circulation along with related problems.
Prepared for: Naval Aviator students
Type of Program: Linear
Average Time Required: 30 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

ROTOR SYSTEM

Main Rotor System, H-34
Identification Code: CNABT-P-719X PAT
Separate main rotor head components into four major areas, describe and explain function of blade limiting devices, describe main rotor blade construction, and explain how main rotor system controls functions.
Prepared for: Helicopter Flight students
Type of Program: Branching
Average Time Required: 32-35 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

RULES OF THE ROAD

Fog Signals
Identification Code: FAAWTC PI-5
Identification of correct fog signals to be used by vessels in both inland and international waters.
Prepared for: CIC Team Training--Naval officers and enlisted men
Type of Program: Linear
Average Time Required: 16 minutes

Validation Data:		
	Number of learners tested	46
	Low score	60
	High score	100
	Percentage who scored 90% or higher	73

Developer: FAAWTC, SAN DIEGO

Rules of the Road
Identification Code: FAAWTC SD PI-2
Covers meeting, crossing, and overtaking situations in inland and international waters; required maneuvers and their corresponding whistle signals; techniques for interpreting Dead Reckoning Tracer (DRT), radarscope, and maneuvering board.
Prepared for: CIC Watch Officer and CIC Team Training
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:		
	Number of learners tested	260
	Low score	84
	High score	100
	Percentage who scored 90% or higher	81.3

Developer: FAAWTC, SAN DIEGO

Rules of the Road
Identification Code: None. Use title.
(This program is a modification of the FAAWTC SD program listed above)
Prepared for: OOD Students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:		
	Number of learners tested	260
	Low score	84
	High score	100
	Percentage who scored 90% or higher	81.3

Developer: FLETRACEN, SAN DIEGO

'JLES OF THE ROAD

sic Rules of the Road for Small Boat Coxswains (Part I)

entification Code: NAVPHIBSCOL 4-1

vers general terms and definitions and distinguishes between Inland and International Rules. also covers burdened and privileged vessel; the illustrations used help the students to termine which vessel is burdened (and/or privileged) in particular situations.

epared for: Functional Training E2 and E3 students

pe of Program: Linear

erage Time Required: 45 minutes

lidation Data:	Number of learners tested	200
	Low score	0
	High score	100
	Percentage who scored 90% or higher	94

veloper: NAVPHIBSCOL, NAVPHIBASE, LITTLE CREEK

sic Rules of the Road for Small Boat Coxswains (Part II - Lights)

entification Code: NAVPHIBSCOL 4-2

vers the types of lights displayed by vessels at night. It covers navigational lights, ying particular attention to running lights. It is designed to help the student to termine the direction of movement of a nearby vessel solely by the position of these ghts. Like Part I, it is meant for potential small boat coxswains.

epared for: Functional Training E2 and E3 students

pe of Program: Linear

erage Time Required: 45 minutes

lidation Data:	Number of learners tested	200
	Low score	0
	High score	100
	Percentage who scored 90% or higher	95

veloper: NAVPHIBSCOL, NAVPHIBASE, LITTLE CREEK

SEAMANSHIP

Boat Etiquette for Boat Coxswains
Identification Code: NAVPHIBSCOL 4-8
Covers the procedures for receiving and carrying out orders as a boat coxswain, procedures for rendering honors in a boat, knowledge of responses to boat challenges, and identification of flag staff and bow and stern insignia.
Prepared for: Enlisted students E-2/E-3
Type of Program: Linear
Average Time Required: 45 minutes
Validation Data: Number of learners tested 103
Low score 31
High score 100
Percentage who scored 90% or higher 89
Developer: NAVPHIBSCOL, NAVPHIBASE, LITTLE CREEK

Cargo Handling - Blocks, Tackles, Hooks, and Shackles
Identification Code: NAVPHIBSCOL 4-7
Covers the basic terminology and uses of various types of blocks, tackles, hooks and shackles.
Prepared for: NAVPHIBSCOL students E2-O4
Type of Program: Linear
Average Time Required: 45 minutes
Validation Data: Number of learners tested 75
Low score 85
High score 100
Percentage who scored 90% or higher 94
Developer: NAVPHIBSCOL, NAVPHIBASE, LITTLE CREEK

Cargo Handling - Cargo Holds
Identification Code: NAVPHIBSCOL 4-6
Covers nomenclature used on the various parts of the cargo hold and the basic procedures in preparing a hold to receive or discharge cargo.
Prepared for: NAVPHIBSCOL students E2-O4
Type of Program: Linear
Average Time Required: 30 minutes
Validation Data: Number of learners tested 75
Low score 70
High score 100
Percentage who scored 90% or higher 94
Developer: NAVPHIBSCOL, NAVPHIBASE, LITTLE CREEK

Cargo Handling - Slings and Their Uses
Identification Code: NAVPHIBSCOL 4-5
Covers the various types of slings and their proper use in handling various types, sizes and shapes of cargo.
Prepared for: NAVPHIBSCOL students E2-O4
Type of Program: Linear
Average Time Required: 45 minutes
Validation Data: Number of learners tested 75
Low score 64
High score 100
Percentage who scored 90% or higher 90
Developer: NAVPHIBSCOL, NAVPHIBASE, LITTLE CREEK

SEAMANSHIP

Use of the Magnetic Compass in a Small Boat

Identification Code: NAVPHIBSCOL 4-4

Covers the reading of the magnetic compass to find direction when operating a small boat. It also explains compass error in the magnetic compass and how this can be corrected. Problems are set up so experience can be gained in computing compass error due to variation and deviation.

Prepared for: Enlisted Amphibious Orientation students

Type of Program: Linear

Average Time Required: 1 hour

Validation Data:

Number of learners tested	185
Low score	0
High score	100
Percentage who scored 90% or higher	91

Developer: NAVPHIBSCOL, NAVPHIBASE, LITTLE CREEK

Aids to Navigation - Part I - Buoys

Identification Code: H-611-01

Designed to aid the boat coxswain in recognition of sea lane markers.

Prepared for: Enlisted students,Amphibious School

Type of Program: Linear

Average Time Required: 35 minutes

Validation Data:

Number of learners tested	200
Low score	84
High score	100
Percentage who scored 90% or higher	93.5

Developer: NAVPHIBSCOL, CORONADO

Numeral and Selected Alphabet Flags

Identification Code: H-611-05

The assault boat coxswains are taught selected alphabet and numeral flags that control their craft during the assault landing.

Prepared for: Enlisted students, Amphibious School

Type of Program: Linear

Average Time Required: 50 minutes

Validation Data:

Number of learners tested	66
Low score	72
High score	100
Percentage who scored 90% or higher	92

Developer: NAVPHIBSCOL, CORONADO

Piloting

Identification Code: CNABT-P-743X PAT

Terms, devices, and instruments currently used in piloting (seamanship), along with duties of the piloting team. Aids to navigation are also included.

Prepared for: Student Naval Aviators/Aviation Officer Candidates

Type of Program: Linear

Average Time Required: 13 minutes

Validation Data: Not available

Developer: NABATRA, NAS, PENSACOLA

SEMAPHORE

Semaphore (Revised 8/68)
Identification Code: NAVPHIBSCOL 4-3
Using illustrations of the semaphore alphabet positions, the student recognizes and identifies all 26 letters plus FRONT and NUMERALS. The program teaches by combining three methods of learning semaphore: The letter sequence, position sequence, and system of opposites, with memory aids added when helpful. An optional ten-minute message using all positions, which may be deciphered by the student is included at the end. Reported time includes this message.
Prepared for: UDTR Students
Type of Program: Linear
Average Time Required: 56 minutes

Validation Data:	Number of learners tested	78
	Low score	60
	High score	100
	Percentage who scored 90% or higher	91

Developer: NAVPHIBSCOL, LITTLE CREEK

SECURITY

Security of Classified Information
Identification Code: CNATT-M396 PAT
Discusses the different types of security classifications and what to do in case a violation is discovered. Describes how to prepare a piece of classified correspondence for mailing.
Prepared for: AK A and MARAK C Schools students
Type of Program: Linear
Average Time Required: 37 minutes

Validation Data:	Number of learners tested	100
	Low score	80
	High score	100
	Percentage who scored 90% or higher	97

Developer: NATTC, NAS, MEMPHIS

Security of Classified Information
Identification Code: NavPers 10975-X
Covers the definitions and responsibilities; classification; personnel security clearance and access; security orientation, education and training; preparation and marking; custody and stowage; accounting, transmission, and control; dissemination; visitor control; security violations and compromise; and a reference book. Program is contained in the following three separate volumes: Volume I - Chapters 1-5, Volume II - Chapters 6-10, and Volume III - Student Reference Books.
Prepared for: Officer Correspondence students
Type of Program: Linear-Branching
Average Time Required: 20 hours

Validation Data:	Number of learners tested	46
	Low score	76
	High score	98
	Percentage who scored 90% or higher	100

Developer: BUPERS (PERS-C411)

Security Regulations, Weapons Systems Fundamentals
Identification Code: CNABT-P-721X PAT
Covers every aspect of security and the disposition of classified matter.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 12 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

SIGNAL RESPONSE

Signal Response
Identification Code: CNABT-P-609 PAT
Covers the following situations in a mirror landing approach: High; High-in-close; Low; Low-in-close; Fast; Power; Attitude; Line-up; Cut; and Wave-off.
Prepared for: Carrier Qualification Phase students
Type of Program: Signal Response
Average Time Required: 1 hour and 30 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

SONAR

Sound in Water
Identification Code: WEPS P.I. #1
Designed to familiarize personnel with characteristics of sound (noise) and the reaction of sound (sonar transmission) when introduced into water of various temperatures, pressures, or salinity. The latter part deals with doppler: definition, determination, and use in naval sonar. This program may be of general interest to potential sonar technicians and ASW officers prior to, or during, basic ASW training.
Prepared for: Naval Destroyer School students
Type of Program: Linear-Intrinsic
Average Time Required: 45 minutes

Validation Data:		
	Number of learners tested	85
	Low score	32
	High score	40
	Percentage who scored 90% or higher	95

Developer: NAVDESCOL, NEWPORT

SONAR CLASSIFICATION

ASPECT Trace Interpretation and Equipment Operation (A Confidential Program)
Identification Code: J-2G/210-522
The ASPECT Controls, including their functions and operation. Classification and operating procedures using the ASPECT equipment. Correct classification techniques utilizing the ASPECT equipment.
Prepared for: Sonar Technicians of Operating Forces
Type of Program: Linear-Branching
Average Time Required: 10 hours

Validation Data:		
	Number of learners tested	71
	Low score	40
	High score	99.26
	Percentage who scored 90% or higher	29.58

Developer: FLETRACEN, NORFOLK

STAFF STUDY

The Staff Study: A Self-Instructional Lesson
Identification Code: NavPers 94407
Designed to teach the staff study process from problem definition to the written report. After completion of the program, the student should be assigned a staff study problem to measure the real effectiveness of the program.
Prepared for: Naval War College students
Type of Program: Linear
Average Time Required: 2 hours and 6 minutes (Range: 1 hour to 3½ hours)
Validation Data:

Number of learners tested	49
Low score	70
High score	100
Percentage who scored 85% or higher	85

Developer: BUPERS (PERS-C31)

SUPPORTING ARMS

Part I - The Artillery Call for Fire
Part II - Artillery Spotting and Adjusting
Part III - Naval Gunfire
Part IV - Close Air Support
Identification Code: SA-201
Designed to give the Marine the capability of employing Artillery, Naval Gunfire, or Close Air Support should he find himself in need of one of these supporting arms when trained forward observers or air controllers or spotters are not available. The student will be able to request fire support containing the essential elements of information required by each of the three supporting arms in the language and format peculiar to each. He will also be able to apply the principles of observed fire procedure concerning the adjusting of fire onto the target.
Prepared for: Marines E-1 through 0-3
Type of Program: Linear
Average Time Required: 4 hours and 30 minutes (Designed to be given in three periods of two hours each.)
Validation Data:

Number of learners tested	200
Low score	Incomplete
High score	100
Percentage who scored 85% or higher	80

Developer: LANFORTRACOMLANT, NAVPHIBASE, LITTLE CREEK

Capabilities and Limitations of Naval Gunfire Support
Identification Code: NAVPHIBSCOL 3-3
Will teach the student the capabilities and limitations of Naval Gunfire Support and the recommended procedure to overcome or minimize limitations in the use of ships and naval guns.
Prepared for: PHIBSCOL students E-2 through 0-4
Type of Program: Linear
Average Time Required: 50 minutes
Validation Data:

Number of learners tested	61
Low score	84
High score	100
Percentage who scored 90% or higher	94

Developer: NAVPHIBSCOL, LITTLE CREEK

SUPPLY SYSTEM

Federal Supply System
Identification Code: None. Use title.
Covers the purpose of the Federal Supply System, methods of cataloging items in the system, main parts of the system, make-up of the Federal Stock Number, contents of indexes within the system, and the procedures followed in ordering or turning-in material using the DD 1348 Form.
Prepared for: Aviation Boatswains Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 38 minutes

Validation Data:	Number of learners tested	56
	Low score	79
	High score	100
	Percentage who scored 90% or higher	88

Developer: NATTC, NAS, LAKEHURST

SURFACE TACTICS

Reorientation of Bentline Screens (A Confidential Program)
Identification Code: FAAWTC SDiego PI-04A
Reorientation of Bentline Screens by methods "coke", and "ginger." Stationing and reorientation of pouncers.
Prepared for: CIC Watch Officer students
Type of Program: Linear-Text
Average Time Required: 35 minutes

Validation Data:	Number of learners tested	74
	Low score	73
	High score	100
	Percentage who scored 90% or higher	82

Developer: FAAWTC, SAN DIEGO

Circular Formations
Identification Code: FAAWTC SDiego PI-02
Correctly plot and label all main body stations of circular formation when given formation axis, guide station and station assignment tables. Exercises student determination of true bearing and range to guide from any ship in formation after execution of tactical maneuvers.
Prepared for: CIC Watch Officer students
Type of Program: Linear-Text
Average Time Required: 1 hour and 11 minutes

Validation Data:	Number of learners tested	63
	Low score	55
	High score	100
	Percentage who scored 90% or higher	81

Developer: FAAWTC, SAN DIEGO

Multiple Line Formations (A Confidential Program)
Identification Code: FAAWTC SDiego PI-09
Characteristics of multiple line formations, procedures for forming multiple line formations and methods for maneuvering multiple line formations.
Prepared for: CIC Watch Officer students
Type of Program: Linear-Text
Average Time Required: 33 minutes

Validation Data:	Number of learners tested	153
	Low score	40
	High score	100
	Percentage who scored 90% or higher	80

Developer: FAAWTC, SAN DIEGO

SURFACE TACTICS

SAU Approach to Datum - Time Problems
Identification Code: FAAWTC SDiego PI-010
Compute and plot on geographic display torpedo danger area, zero time and time of entry into a contact area for both direct and indirect approach situations.
Prepared for: CIC Watch Officer students
Type of Program: Linear-Text
Average Time Required: 1 hour and 45 minutes

Validation Data:	Number of learners tested	59
	Low score	50
	High score	100
	Percentage who scored 90% or higher	71

Developer: FAAWTC, SAN DIEGO

Single Line Formations (A Confidential Program)
Identification Code: FAAWTC SDieog PI-03
Teaches student intricacies of single line formations by having him learn and apply the rules for turning, wheeling, exchanging stations, reversing order of ships, altering the line and automatic shifting of the guide.
Prepared for: CIC Watch Officer students and team training
Type of Program: Linear-Text
Average Time Required: 1 hour and 34 minutes

Validation Data:	Number of learners tested	220
	Low score	78
	High score	100
	Percentage who scored 90% or higher	70

Developer: FAAWTC, SAN DIEGO

SURVIVAL

Introduction to Aircraft Pressurization and Air Conditioning
Identification Code: CNATT-P-5187 PAT
Give a basic understanding of the purposes, general consideration, and basic requirements for pressurization and air conditioning in an aircraft as it affects the crew's physical and mental condition. (Prerequisite: Introduction to Oxygen and Nitrogen (CNATT-P-5190 PAT), listed on page S-8.)
Prepared for: AME A School students
Type of Program: Linear
Average Time Required: 1 hour and 10 minutes

Validation Data:	Number of learners tested	51
	Low score	88
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, MEMPHIS

Egress System
Identification Code: CNATT-P-4909 (Rev. 6-66)
Types of canopies. Emergency and normal operation. Lap belts and shoulder harnesses. Operation and precautions for the Martin-Baker and RAPEC ejection seats.
Prepared for: AFUN P School students
Type of Program: Linear
Average Time Required: 1 hour and 5 minutes

Validation Data:	Number of learners tested	50
	Low score	90
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

SURVIVAL

Egress Systems (Revised for AB Schools)
Identification Code: CNATT-L1 PAT
Covers ejection seats used in military aircraft. It lists the main parts of an egress system. Also covered are the two types of canopies, normal and emergency canopy operation, lap belts and shoulder harnesses, altitude and speeds at which seats can be ejected, types of explosive charges used in seats, purposes of the drogue chute, differences in the RAPEC and MARTIN-BAKER seats, four explosive devices used with ejection seats, and safety precautions to be observed.
Prepared for: Class A School students
Type of Program: Linear
Average Time Required: 1 hour (Suggested reading time)

Validation Data:	Number of learners tested	60
	Low score	75
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

Introduction to Oxygen and Nitrogen
Identification Code: CNATT-P-5190 PAT
Gives the grades, characteristics, use, and safety precautions pertaining to gaseous and liquid oxygen. Gives the characteristics, use, and safety pertaining to gaseous and liquid nitrogen. Gives the purpose of using these forms of oxygen and nitrogen in aviation.
Prepared for: AME A School students
Type of Program: Linear
Average Time Required: 2 hours

Validation Data:	Number of learners tested	48
	Low score	86
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, MEMPHIS

Parachutes - Part I - Ripcord Construction, Part II - Suspension Lines
Identification Code: CNATT-P-5206 PAT
Part I reviews ripcord configuration and specifications. Part II covers the suspension line and its relationship to the canopy and harness attachments at the links. Use is limited to basic training.
Prepared for: Class A School students
Type of Program: Linear
Average Time Required: Part I - 24 minutes
Part II - 36 minutes

Validation Data:	Number of learners tested	113
	Low score	60
	High score	100
	Percentage who scored 90% or higher	88

Developer: NATTC, NAS, LAKEHURST

SURVIVAL

Parachute Loft and Dry Locker Procedures
Identification Code: CNATT-P-5066 PAT
Outlines general layout of physical plant, in addition to calling attention to certain recommended procedures for observing temperature and humidity. Use of the sling psychrometer and hydrothermograph is discussed in some detail. Descriptions and common dimensions are presented for numerous articles such as parachute packing tables, packing kits, and portable dry lockers. Use is limited to basic training.
Prepared for: Class A School students
Type of Program: Linear-Branching
Average Time Required: 2 hours

Validation Data:	Number of learners tested	126
	Low score	85
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

TEST EQUIPMENT

Programmed Maintenance Instruction for Frequency-Power Meter AN/SPM-4
Identification Code: NavPers 93640, 93641, 93642
Recognition of faults in the AN/SPM-4. Isolation of faults to responsible components. Practical exercises to give experience in the final phase of the maintenance task; taking corrective action. Also contains technical reviews, specifications, test data, illustrations.
Prepared for: Selected Ships and Class "C" FT Schools
Type of Program: Linear-Branching
Average Time Required: One Month
Validation Data: Not available
Statements of Objectives are available in program.
Developer: BUPERS (PERS-C12)

Test Set Mk 281 Mod 0, Front Panel Operation
Identification Code: None. Use title.
Covers Front Panel Operation of the test set. Provides for setting synchronous and non-synchronous functions in a torpedo. Power supply for torpedo warm-up and firing included.
Prepared for: Class C School students (submarine weapons)
Type of Program: Linear-Branching with full apron panel
Average Time Required: 1 hour and 15 minutes

Validation Data:	Number of learners tested	30
	Low score	0
	High score	100
	Percentage who scored 90% or higher	80

Developer: NAVADVUSEASCOL, ORLANDO

Tektronix 545-A Oscilloscope and Types CA and K Plug-in Units, Operation and Maintenance
Identification Code: NavPers 93866
Covers operation and maintenance of the Tektronix 545A Oscilloscope and the CA and K Plug-in Units. It covers the front panel control functions and circuit theory of operation. It covers symptom recognition, trouble isolation, equipment repair and preventive maintenance. This instruction is supplemented by laboratory exercises which reinforce (through practical experience) what has been learned from the programmed instruction text.
Prepared for: Shipboard Technicians responsible for 545 Operation and Maintenance
Type of Program: Linear
Average Time Required: 25 hours

Validation Data:	Number of learners tested	29
	Low score	Not available
	High score	Not available
	Percentage who scored 90% or higher	90

Statements of objectives are given on pages XIII and XIV of test.
Developer: BUPERS (PERS-C12)

3-M SYSTEM

Aircraft Statistical Data - Aircraft Accounting System
Identification Code: CNATT-P-5069
The student will learn to prepare ESD cards to report flight data, not operationally ready data, and equipment inventory changes. The student will learn methods for forwarding aircraft statistical data and the proper procedure for making corrections to the Daily Aircraft Flight Report (ASD-1) and the Baily Aircraft Readiness Report (ASD-2). The student will also state the procedure for tansmitting NOR and flight data, and how to submit this data when ESD cards are not available.
Prepared for: 3-M's Training, Data Analyst, NAMTRADETS students
Type of Program: Linear
Average Time Required: 1 hour and 10 minutes

Validation Data:	Number of learners tested	65
	Low score	83
	High score	100
	Percentage who scored 90% or higher	94

Developer: NAMTRAGRU, NAS, MEMPHIS

AMSE Statistical Data Reporting
Identification Code: CNATT-N-322 PAT
The purpose of this program is to teach the documentation of aviation maintenance support equipment statistical data. The AMSE data card, its use, reporting procedures, and various situations are covered by this program.
Prepared for: NAMTRADETS, Class C, students
Type of Program: Linear
Average Time Required: 1 hour and 42 minutes

Validation Data:	Number of learners tested	75
	Low score	78.4
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

Manhour Accounting Card, Parts 1 and 2 - Navy Maintenance Material Management System
Identification Code: CNATT-P-4939
The student will prepare correctly a manhour accounting card for a man who is newly assigned, transferred, temporarily transferred and temporarily assigned, and temporarily assigned to another work center for overtime. He will also learn to prepare a manhour accounting card for labor code changes, overtime, and for correcting errors submitted. (The appendices of the Naval Aviation Maintenance and Material Management Manual (0618-200-0100) and two MHA cards are required with this program.)
Prepared for: 3-M's Training, NAMTRADETS students
Type of Program: Linear-Branching
Average Time Required: Part 1 - 2 hours and 40 minutes
Part 2 - 2 hours and 15 minutes

Validation Data:	Number of learners tested	48
	Low score	52
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

3-M SYSTEM

Introduction to the Planned Maintenance System
Identification Code: None. Use title.
Covers the objectives of the planned maintenance system, factors which users of the planned maintenance system must be cognizant, terminology used in the system, maintenance frequency code letters, and the forms used with the planned maintenance system (purpose and proper use). (This program can be used by anyone for a general introduction to the planned maintenance system.)
Prepared for: Aviation Boatswain's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 7 minutes

Validation Data:	Number of learners tested	51
	Low score	80
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

Programmed Instruction, Introduction to the 3-M System
Identification Code: NavPers 93950
Covers the objectives of the Planned Maintenance Sub-system, factors which users of the Planned Maintenance Sub-system must be cognizant, terminology and forms used with the Planned Maintenance Sub-system, and maintenance frequency code letters. Defines the Maintenance Data Collection Sub-system, and covers some forms used with the Maintenance Data Collection Sub-system.
Prepared for: Various ratings, including RD, GM, ET, RM, YN, SK, and EM
Type of Program: Linear
Average Time Required: 1 hour and 15 minutes

Validation Data:	Number of learners tested	51
	Low score	80
	High score	100
	Percentage who scored 90% or higher	90

(Program developed by NATTC, Lakehurst, with revisions and additions by BuPers (Pers-C23). Validation data taken from NATTC program.)
Developer: BUPERS (PERS-C23)

Support Action Form - Navy Maintenance Material Management System
Identification Code: CNATT-P-4942
The student will prepare five entries on a support action form (SAF) to document five different support actions, which includes the type equipment, action organization, work center, maintenance level, action date, support code, type maintenance, items processed, manhours and signature. (The appendices of the Naval Aviation Maintenance and Material Management Manual (0618-200-0100) two SAF cards are required with this program.
Prepared for: 3-M's Training, NAMTRADETS students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 52 minutes

Validation Data:	Number of learners tested	54
	Low score	58
	High score	100
	Percentage who scored 90% or higher	95

Developer: NAMTRAGRU, NAS, MEMPHIS

TOOLS

Common Aviation Handtools, Part I, Screwdrivers, Pliers, Wrenches, Punches, and Measuring Devices
Identification Code: CNATT-M299 PAT
Functions of and safe handling procedures for various non-cutting handtools.
Prepared for: AFUN P School students
Type of Program: Linear-Branching
Average Time Required: 55 minutes

Validation Data:	Number of learners tested	53
	Low score	86.5
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MAMPHIS

Common Aviation Handtools, Part II, Hacksaws, Files, Twist Drills, and Taps and Dies
Identification Code: CNATT-M300 PAT
Functions of and safe handling procedures for various cutting handtools.
Prepared for: AFUN P School students
Type of Program: Linear-Branching
Average Time Required: 47 minutes

Validation Data:	Number of learners tested	54
	Low score	81
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

TRAINING PROGRAMS

Navy Enlisted Scientific Education Program
Identification Code: NavPers 94058-1
Contains feature benefits, eligibility requirements and application procedures.
Prepared for: YN/PN Class A School students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	135
	Low score	80
	High score	100
	Percentage who scored 90% or higher	93

Statement of objectives are available as COG "I" Stock
Developer: BUPERS (PERS-C21)

Selective Conversion and Reenlistment Program (SCORE)
Identification Code: NavPers 94061-1
Contains purpose, benefits and application procedures
Prepared for: YN/PN Class A School students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	59
	Low score	80
	High score	100
	Percentage who scored 90% or higher	89.9

Statement of objectives are available as COG "I" Stock
Developer: BUPERS (PERS-C21)

TRAINING PROGRAMS

Warrant Officer Program
Identification Code: NavPers 94059-1
Contains purpose, eligibility requirements, application procedures and assignment.
Prepared for: YN/PN Class A School students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:		
	Number of learners tested	82
	Low score	76
	High score	100
	Percentage who scored 90% or higher	93.9

Statement of objectives are available as COG "I" Stock.
Developer: BUPERS (PERS-C21)

VENDING MACHINES

Vending Machines 6ND-NSCS-422-4-13 (6/66)

Identification Code: 6ND-NSCS-P-59

The student will learn from the managerial standpoint the principles involved in the operation and control of vending machines (soft drink, cup type) in accordance with regulations set forth in NAVSUP Manual, Volume III, Chapter 9.

Prepared for: NSCS Officer students

Type of Program: Linear-Branching

Average Time Required: 1 hour and 15 minutes

Validation Data: Not available

Statement of objectives are not available from the developer.

Developer: NAVSCSCOL, ATHENS, GEORGIA

VISION

Vision

Identification Code: CNABT-P-620X PAT

Covers the parts of the human eye and the function of each part. Describes how brightness, contrast, and obstructions limit visibility. Describes techniques and limitations on vision under varying levels of illumination.

Prepared for: Student Naval Aviators/Flight Officers

Type of Program: Linear

Average Time Required: 27 minutes

Validation Data: Not available

Developer: NABATRA, NAS, PENSACOLA

WEAPONS

Naval Gunfire Support (A Confidential Program)
Identification Code: None. Use title.
Volume I, general terminology and mission of team. Volume II, CIC procedures, radio telephone talker, dead reckoning, and weapons liaison officer. Volume III, plotting room procedures - range operator, bearing operator, elevation operator, MilSpot converter.
Prepared for: Naval Gunfire Support Team
Type of Program: Linear-Branching
Average Time Required: 3 hours for each team member

Validation Data:	Number of learners tested	Not available
	Low score	64
	High score	86
	Percentage who scored 90% or higher	0

Developer: FLETRACEN, NAVBASE, NEWPORT

Naval Gunfire Support - Part I - Introduction (A Confidential Program)
Identification Code: None. Use title.
Provides an introduction to NGFS for officers. It covers: Phases of NGFS; Classifications of gunfire by: fire by effect, tactical uses, degrees of prearrangement, techniques of delivery, and types of fire; Characteristics of naval guns, projectiles, and fuzes; Direct and indirect fire; Other related topics.
Prepared for: Prospective Weapons Officers
Type of Program: Discrimination and Constructed Response
Average Time Required: 1 hour and 30 minutes
Validation Data: Actual validation data is not available; however, test scores obtained have increased markedly over those obtained from conventional-type instruction.
Developer: FLETRACEN, NAVSTA, SAN DIEGO

Naval Gunfire Support - Part 2
Identification Code: None. Use title.
Covers illuminating and modified illuminating fire, massing fire, target location, grid spot converter, and grid reference system.
Prepared for: Prospective Weapons Officer
Type of Program: Discrimination and Constructed Responses
Average Time Reqired: 1 hour and 30 minutes
Validation Data: Not available
Developer: FLETRACEN, NAVSTA, SAN DIEGO

Military Grid Reference System
Identification Code: None. Use title.
Covers briefly the UTM Grid System. Uses Pacific Coast grid locations.
Prepared for: Prospective Weapons Officers
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	150
	Low score	40
	High score	100
	Percentage who scored 90% or higher	90

Developer: FLETRACEN, NAVSTA, SAN DIEGO

WEAPONS

Support Arms Field Artillery
Identification Code: H-611-02
To orient members of the amphibious force on one of its supporting arms, the field artillery. (Complete with post-test and answer sheet.)
Prepared for: Officer Amphibious Orientation
Type of Program: Linear
Average Time Required: 35 minutes

Validation Data:	Number of learners tested	50
	Low score	70
	High score	100
	Percentage who scored 90% or higher	96

Developer: NAVPHIBSCOL, CORONADO

WORK, POWER AND ENERGY

Work, Power, and Energy
Identification Code: CNABT P-621X PAT
Presents the scientific aspect of work, power, and energy.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 15 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

PART 2

PROGRAMS UNDER DEVELOPMENT OR BEING PLANNED

SUMMARY OF REPORTS SUBMITTED TO THE BUREAU OF NAVAL PERSONNEL. (THIS TAKES THE PLACE OF THE BUPERS NOTICE 1500 THAT WAS PREVIOUSLY ISSUED TWICE A YEAR.

THE WORD IN PARENTHESES IS THE SUBJECT AREA AND IS USED IN ORDER TO PLACE THE PROGRAMS IN ALPHABETICAL ORDER; IT IS NOT A PART OF THE TITLE.

INFORMATION PROVIDED IS:

TITLE
DESCRIPTION OF PROGRAM (IF GIVEN)
LEARNERS FOR WHOM THE PROGRAM IS BEING WRITTEN
WHETHER UNDER DEVELOPMENT OR BEING PLANNED
ACTIVITY DEVELOPING THE PROGRAM

(Administration)
Classes of Supply
Supplies encompass all the items necessary for the equipment, maintenance and operation of a military command, including food, clothing, equipment, arms, ammunition, fuel, materials, and machinery of all kinds.
For officer and enlisted personnel.
Under development.
LANDING FORCE TRAINING COMMAND, ATLANTIC

Enlisted Personnel Distribution
Distribution and organizations; career rotation system; Seavey, Shorevey and Wavevey procedures; rotation data card processing; types and lengths of tours; determination of tour duty commencement date; and entries in service records and diaries.
For YN/PN "A" School students.
Planned for development.
SERVICE SCHOOL COMMAND, BAINBRIDGE

Naval Manpower Information System
Content, preparation and submission schedules for the personnel diary; officers' gain, loss, and memorandum entries; and enlisted distribution and verification report.
For YN/PN "A" School students.
Planned for development.
SERVICE SCHOOL COMMAND, BAINBRIDGE

ipboard Organization and Department Offices
Shipboard organization; maintenance of enlisted service record; enlisted personnel diary; pay and allowances; Standard Navy Maintenance System; deck log; gunnery records and reports; and general operations' duties.
For YN/PN "A" School students.
Planned for development.
SERVICE SCHOOL COMMAND, BAINBRIDGE

(Air Control)
Air Traffic Rules--General Rules
Interprets and teaches the application of selected portions as they apply to air traffic control of Federal Aviation Regulations, Parts 91 and 105.
For Air Controlman School, Class "A", students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, GLYNCO

Introduction to Air Traffic Control Radar
Provides an understanding of basic principles and functions of radar used in air traffic control.
For Air Controlman School, Class "A", students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, GLYNCO

Introduction to Air Traffic Control Radar--Carrier Air Traffic Control Center
Contains the purpose, organization, components, and abbreviated phraseology of CATCC.
For Air Controlman School, Class "A", students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, GLYNCO

Introduction to Air Traffic Control Radar--Radar Policy and Procedures
Teaches radar policy and procedures as described in OPNAVINST 3721.1 (series).
For Air Controlman School, Class "A", students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, GLYNCO

(Ammunition)
Characteristic of Naval Ammunition
Teaches types of ammunition, components of ammunition and characteristics of various types.
For officers and enlisted (E-2 through 0-4).
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

(Amphibious Operations)
Navy Amphibious Organization
Teaches the student the various commands and their relationship within the organization of, or tasking for, an amphibious operation.
For SNCO through Field Grade.
Planned for development.
LANDING FORCE TRAINING COMMAND, ATLANTIC

ANGLICO
Designed to teach Army/Allied units assigned on amphibious missions the function of ANGLICO and their responsibility for support of an ANGLICO unit once assigned them.
For officers and enlisted.
Under development.
LANDING FORCE TRAINING COMMAND, ATLANTIC

Shore Party Planning Consideration
Teaches coordination with executive and special staff officers concerning shore party matters; recognizing planning considerations that affect shore party operations, and utilizing planning considerations to prepare a workable shore party plan.
For Sergeants through Captain.
Planned for development.
LANDING FORCE TRAINING COMMAND, ATLANTIC

TACLOG
Section 1: Determination of requirements for TACLOG groups based on knowledge of Navy Control Organization for a given landing.
Section 2: Discusses the procedures used in the TACLOG for requesting troops or equipment and for reporting and recording information during the selective off-loading phase.
For officer and enlisted personnel.
Under development.
LANDING FORCE TRAINING COMMAND, ATLANTIC

(Audio-Visual)
Lights and Shapes
(An audio-visual program developed for multi-media audio-visual equipment.)
For officers.
Planned for development.
FLEET TRAINING CENTER, SAN DIEGO

(Aviation)
Air Droppable Survival Kit
Description and nomenclature.
For PR "A" & "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Introduction to the Mk-5 Arresting Gear
Provides a general breakdown of engine and components. Provides general information of arrangement of the arresting gear.
For AB "C" Equipments students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

(Aviation)

Introduction to the Mk-7 Arresting Gear
Provides a general breakdown of engine and components. Provides general information of arrangement of the arresting gear.
For AB "C" Equipments students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Introduction to Shore-Based Arresting Gear
Gives the description, location and installation of the E-5, E-14-1, E-27, and E-28 arresting gear units.
For AB "C" Equipments students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Atmosphere and Full Pressure Suit
Description and nomenclature.
For PR "A" & "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Aviation Hardware
Introduces the basic types of aircraft hardware.
For AFUN "P" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Introduction to the H-8 Catapult
Provides a basic description of the main components and operating phases of the catapult.
For AB "C" Equipments students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Introduction to Steam Catapults
Provides a basis for understanding the major systems, nomenclature and installations of the steam catapults.
For AB "C" Equipments students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Corrosion Control
Covers the principles of corrosion control for aircraft.
For AFUN "P" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Egress Systems and the PR
To provide the Aircrew Survival Equipmentman (PR) with an appreciation of the dangers inherent in working in a cockpit with the ejection seat installed. Explains briefly the purpose of any emergency ejection system and the basic principles of operation. Sets forth the safety precautions which must be stringently observed.
For PR "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Foreign Object Damage
Describes how different types of objects may cause foreign object damage to jet aircraft.
For ADJ "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

(Aviation)

Jet Engine Test Facility--Circular Slide Rule

Explains how to use the circular slide rule for correcting observed engine operating readings to standard day readings.
For AFUN "P" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Jet Engine Test Facility--Classification and Familiarization

Introduces the student to different types of jet engine test facilities.
For AFUN "P" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Jet Engine Test Facility--Engine Preparation

Explains how a jet engine is prepared for testing.
For AFUN "P" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Jet Engine Test Facility--NER-3 Instrumentation

Illustrates and explains the instruments found in the NER-3 test facility.
For AFUN "P" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Maintenance Action Form

Explains how to fill out the Maintenance Action Form for avaiation support equipment work.
For AS "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Marine Aviation Occupational Fields

Introduces the basic types of aircraft hardware.
For AFUN "P" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Parachute Inspection and Repair

Identification and procedure.
For PR "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

2867 Regulator

Description, nomenclature and uses.
For PR "A" & "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Support Action Form

Explains how to fill out the Support Action Form for aviation support equipment work.
For AS "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

(Awards)

Navy and Marine Corps Awards

To teach policies and procedures for initiating recommendations for Military Awards.
For all officers (appropriate for PCO/PXO's)
Under development
NAVAL AMPHIBIOUS SCHOOL, CORONADO

(Career Counseling)
Other Opportunities Available to Enlisted Personnel under Career Counseling
Benefits and qualifications necessary for available programs such as Officer Candidate, Limited Duty Officer, Medical Service Corps, Aviation Officer Candidate, Nuclear Power, Submarine Training, and Nursing Education, etc
For YN/PN "A" School students.
Planned for development.
SERVICE SCHOOL COMMAND, BAINBRIDGE

(CIC Procedures)
CIC Aspects of Man Overboard (FAAWTC PI-8)
Procedures to be used in CIC when "man overboard" occurs.
For officers and enlisted men with CIC team responsibilities.
Under development.
FLEET ANTI-AIR WARFARE TRAINING CENTER, SAN DIEGO

(Communications)
Call Signs and Address Groups
Covers the various types of Call Signs and Address Groups, their construction,and identification differences.
For prospective Communications Officers.
Under development.
FLEET TRAINING CENTER, SAN DIEGO

Casualty Report (CASREPT) Message Element Format
Covers all elements contained in a message Casualty Report, listing each element in its proper sequence.
For prospective Communications Officers/senior officers
Under development.
FLEET TRAINING CENTER, SAN DIEGO

Communications Files
Covers the various communications files, what is contained in each file, retention time of contents, destruction time, and which files may be consolidated.
For prospective Communications Officers/enlisted communicators.
Under development.
FLEET TRAINING CENTER, SAN DIEGO

Commercial Traffic (CLASS E)
Covers the basic concept of the Class "E" message and the mandatory information required for each Class "C" message. It shows the proper method for computing charges and arranging the message in proper sequence.
For prospective Communications Officers/enlisted communicators.
Under development.
FLEET TRAINING CENTER, SAN DIEGO

Downgrading and Declassifying
Includes statements and charts of intervals to downgrade and/or declassify documents plus categories of information that fall into Groups 1, 2, 3 or 4, in accordance with OPNAVINST 5510.40 Series.
For prospective Communications Officers.
Under development.
FLEET TRAINING CENTER, SAN DIEGO

Frequency Emission Designators
Covers the assignment and recognition of Frequency Emission Designators for U. S. Navy Communications.
For prospective Communications Officers/enlisted communicators.
Under development.
FLEET TRAINING CENTER, SAN DIEGO

(Communications)
The Naval Letter and Endorsements
Illustrates the format used for the naval letter and endorsements.
For AK "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Message Drafting
Covers message addresses, classification, references, precedence, and the body of the text.
For prospective Communications Officers.
Under development.
FLEET TRAINING CENTER, SAN DIEGO

Naval Message Format Lines (Visual Signalling)
Covers the sixteen (16) format lines of a Naval Message with emphasis on the format lines used in visual signalling.
For Signalmen Strikers.
Under development.
FLEET TRAINING CENTER, SAN DIEGO

Movement Reports
Covers the Movement Report System, the various forms required for an initial movement report, and the proper method of completing the necessary form.
For prospective Communications Officers/Enlisted Communicators.
Under development.
FLEET TRAINING CENTER, SAN DIEGO

A Preview of Naval Communications
Security classifications, order of relative security for methods of signaling, fundamental requirements.
For SM "A" School students, E2, E3.
Under development.
FLEET TRAINING CENTER, NEWPORT

Radio Beacon Set (AN/TPN-7)
For NAVPHIBSCOL students E-2 through 0-3.
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

Transceiver Waterproofing
For NAVPHIBSCOL students E-2 through 0-4
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

(Computer)
Digital Computer Data Flow
Teaches computer data flow between the units taught to date.
For AQ "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Direct View Storage Tube
Teaches the advantages, construction and theory of operation of the Direct-View Storage Tube. Provides an understanding of the precautions relating to screen damage of the Direct-View Storage Tube.
For AQ "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

(Computer)
E-10 Computer
Teaches the solution of dead reckoning problems involving time, speed, distance and wind with the use of the E-10 computer.
For TD "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Input and Output Devices
Teaches the different types of input and output devices used with digital computers.
For AQ "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Memory Devices
Teaches different types of memory devices used in digital computers.
For AQ "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Programming
Teaches the basics in computer programming techniques and procedures.
For AQ "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

(Damage Control)
De-watering Procedures
For officers and enlisted (rated and non-rated).
Planned for development.
FLEET TRAINING CENTER, SAN DIEGO

Elementary Damage Control
For officers and enlisted (rated and non-rated).
Planned for development.
FLEET TRAINING CENTER, SAN DIEGO

Fire Party Organization
For officers and enlisted (rated and non-rated).
Planned for development.
FLEET TRAINING CENTER, SAN DIEGO

Foam Generating Equipment
For officers and enlisted (rated and non-rated).
Planned for development.
FLEET TRAINING CENTER, SAN DIEGO

Installed Fire Systems
For officers and enlisted (rated and non-rated)
Planned for development.
FLEET TRAINING CENTER, SAN DIEGO

(Demolitions)
Demolition Charges
Presents the basic demolition charges and explains their uses. Illustrations throughout the program enable the students to identify the charges by sight.
For UDT Basic (enlisted and officer).
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

(Demolitions)
Demolition Materials and Accessories
Presents the materials and accessories used in electric and non-electric firing systems. Covers the assembly of the various electric and non-electric firing systems.
For UDT Basic (Enlisted and Officer)
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

Demolitions Safety Precautions
This program is used as a programmed workbook to enable students to learn 68 demolitions safety precautions. This is accomplished by the presentation of the safety precautions and situations to which they apply.
For UDT Basic (Enlisted and Officer)
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

Introduction to Explosives
Introduces students to explosives. This is accomplished by presenting the basic terminology used to demolition work.
For UDT Basic (Enlisted and Officer)
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

Military Explosives
Presents the basic characteristics and uses of common explosives.
For UDT Basic (Enlisted and Officer)
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

(Electricity)
F-4B/J Exterior Lighting System
Will teach circuitry and operation of the system.
For Naval Air Maintenance personnel.
Planned for development.
NAVAL AIR MAINTENANCE TRAINING GROUP, MEMPHIS

F-4B/J Interior Lighting System
Will teach circuitry and operation of the system.
For Naval Air Maintenance personnel.
Planned for development.
NAVAL AIR MAINTENANCE TRAINING GROUP, MEMPHIS

F-4B/J Warning Light System
Will teach circuitry and operation of the system.
For Naval Air Maintenance personnel.
Planned for development.
NAVAL AIR MAINTENANCE TRAINING GROUP, MEMPHIS

Silicon Controlled Rectifiers
Will teach theory of operation, parameters and application.
For Naval Air Maintenance personnel.
Planned for development.
NAVAL AIR MAINTENANCE TRAINING GROUP, MEMPHIS

Tunnel Diodes
Will teach quantum mechanics and theory of tunneling, negative resistance region and application.
For Naval Air Maintenance personnel.
Planned for development.
NAVAL AIR MAINTENANCE TRAINING GROUP, MEMPHIS

(Electronics)
A.C. Fundamentals
Operation of an alternating current generator and a.c. measuring techniques.
For Intermediate Electronics - Class A-2 ST School, students.
Under development.
FLEET ASW SCHOOL, SAN DIEGO

The Delta Connected A.C. Generator
Covers the basic characteristics of a.c. generators connected in delta.
For AE "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

The Wye Connected A.C. Generator
Covers the basic characteristics of a.c. generators connected in wye.
For AE "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Navy Calibration Program
Teaches functions and responsibilities of Navy Calibration Activities, and shows pictures of various labels and tags used in the Navy Calibration Program. Explains the meaning of labels and tags and covers the traceability of standards from fleet activities to the National Bureau of Standards.
For AV "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Characteristics of Electronic Emissions (FAAWTC PI-01A)
Basic characteristics of electronic emissions with emphasis on measurement of those parameters which will identify the type and purpose of the emitter.
For Naval officers and enlisted men with CIC team responsibilities.
Under development.
FLEET ANTI-AIR WARFARE TRAINING CENTER, SAN DIEGO

Kirchoff's Laws for Combination Circuits
Thorough review of Ohm's Law and Kirchoff's Laws for d.c. circuits. Mathematical analysis of series, parallel, and series-parallel d.c. circuits. Solutions to problems containing various unknown quantities of voltage, current, resistance and power. The causes and effects of "open" and "short" circuits, the need for circuit protection (fuses), and a basic review of voltage divider circuits and their function.
For Intermediate Electronics - Class A-2 ST School students.
Under development.
FLEET ASW SCHOOL, SAN DIEGO

Impedance in Parallel
Covers procedures of solving for circuit functions in a parallel a.c. circuit.
For AE "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Magnetic Amplifiers
The principles of operation and construction of magnetic amplifiers. Basic magnetism and inductance.
For Intermediate Electronics - Class A-2 ST School students.
Under development.
FLEET ASW SCHOOL, SAN DIEGO

(Electronics)
Oscilloscope Application
A review of the controls, operation, and safety precautions involved in the use of the oscilloscope.
For AE "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

P-N Junction Diodes
Covers basic theory, construction, and operations of P-N junction diodes.
For AE "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Power Supply Filters
Covers the basic theory, construction, and operations of power supply filters.
For AE "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Sound Intensity: The Decibel
Solutions to various acoustical energy problems involving the decibel measurement system.
For Intermediate Electronics - Class A-2 ST School, students.
Under development.
FLEET ASW SCHOOL, SAN DIEGO

Test Equipment
Teaches the basic operation of the vacuum tube voltmeter and the oscilloscope. The use of these two instruments as applied to basic electronic maintenance, and a detailed explanation of the parts comprising a typical electrostatic cathode ray tube are included.
For AV "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Transformers
Covers the basic theory, construction, and operation of transformers.
For AE "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Triode Transistors
Covers basic theory, construction, and operation of triode transistors.
For AE "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

(Engineering)
Flow Measuring Devices
Explains the construction features and operating principles of the mechanical flow measuring device, and the differential pressure type flow measuring device.
For Class "A" School students at the Basic Propulsion Engineering School.
Under development.
SERVICE SCHOOL COMMAND, GREAT LAKES

Introduction to Engineering
Designed to introduce the student to the fundamentals of nuclear power.
For Basic Enlisted Submarine School students.
Under development.
NAVAL SUBMARINE SCHOOL, NEW LONDON

(Engineering)

Principles of Hydraulics

Designed to teach the principles of hydraulics in relationship to the transmission and control of force in a simple hydraulic system, the algebraic relation of fluid mechanics, and the components required in a simple hydraulic system.
For Basic Enlisted Submarine School students.
Under development.
NAVAL SUBMARINE SCHOOL, NEW LONDON

Introduction to the Nature of Matter

Describes the difference between weight and mass, and discusses density.
For Class "A" School students at the Basic Propulsion Engineering School.
Under development.
SERVICE SCHOOL COMMAND, GREAT LAKES

NAVSHIPS Technical Manual (250-000)

Teaches engineering students the contents and use of Engineering chapters of the NAVSHIPS Technical Manual.
For officers and enlisted E-2 through 0-2.
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

Pipe, Tubing and Fittings

Defines pipe, tubings, and piping, the materials used in piping systems and precautions to be taken.
For Class "A" School students at the Basic Propulsion Engineering School.
Under development.
SERVICE SCHOOL COMMAND, GREAT LAKES

Pressure and Temperature Control Valves

Explains the principles of operation of the spring, liquid, and pilot actuated types of control valves. It also explains the operation of the gas actuated control valves including the low temperature and high temperature reducing valve.
For Class "A" School students at the Basic Propulsion Engineering School.
Under development.
SERVICE SCHOOL COMMAND, GREAT LAKES

Steam Traps

Describes the four purposes of steam traps and the four types of steam traps, listing the procedures for installation and maintenance of steam traps.
For Class "A" School students at the Basic Propulsion Engineering School.
Under development.
SERVICE SCHOOL COMMAND, GREAT LAKES

Valves

Describes the markings of valves, and their purposes, operation, and maintenance.
For Class "A" School students at the Basic Propulsion Engineering School.
Under development.
SERVICE SCHOOL COMMAND, GREAT LAKES

(Explosives)

Introduction to Low Explosives

Covers general characteristics, uses, composition, and safety precautions pertaining to low explosives.
For AO "A" & "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

(Fluids)
Fluids
Teaches general terms and definitions pertaining to fluids. Provides knowledge of the properties and characteristics of gases and liquids. Teaches the principles of fluids in motion with practical problem solutions.
For TD "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

(Gunfire Spotting)
Terminology Peculiar to Naval Gunfire Spotting
Teaches definitions of special terms utilized in Naval Gunfire Spotting.
For officers and enlisted E-3 through 0-4.
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

(Gunfire Support)
Fire Support Ships and Armament
Teaches the types and roles of NGFS ships and the armament aboard each.
For officers and enlisted E-3 through 0-4
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

The Call for Fire
Teaches Supporting Arms students the terminology, sequence and procedures in the Call for Naval gunfire support. Adapted to Naval Amphibious School curriculum.
For officers and enlisted E-3 through 0-4.
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

(Helicopter)
Helicopter Landing Diagram
This program covers the complete preparation of the Helicopter Landing Diagram; includes depiction of landing zones, landing sites and points, entry, exit, and alternate routes; RP; IP; and various control points. Also covers the proper method of recording this information on an overlay format.
For officer and enlisted personnel.
Under development.
LANDING FORCE TRAINING COMMAND, ATLANTIC

(Instructor Training)
Programmed Case Study, Training Systems Development
Designed to supplement a prior assignment and instructors presentation on Developing Training Systems. (Used with other media and is not effective on its own.)
For Course "O" & "G" students.
Under development.
SERVICE SCHOOL COMMAND, GREAT LAKES

Administration of Programmed Instruction in the Classroom
An Audio-Visual (EDEX Presentation) (Not of text form, copies will not be available.)
For Course OSCAR students.
Under development.
SERVICE SCHOOL COMMAND, GREAT LAKES

(Maintenance)
Maintenance Publications
Explains how to use the "Handbook of Maintenance Instructions" and the "Handbook of Service Instructions."
For ADJ "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

(Maneuvering)
Reorientation of Bentline Screens (FAAWTC PI-04A)
Stationing and reorientation of bentline screens by methods Coke and Ginger. Stationing and reorientation of pouncers.
For Naval officers and enlisted men with CIC team responsibilities.
Under development.
FLEET ANTI-AIR WARFARE TRAINING CENTER, SAN DIEGO

(Maps)
Maps and Charts
Teaches map nomenclature, map layout, types of map projections and their uses. It also explains time conversion.
For TD "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

(Mathematics)
Angles and Triangles
Definitions of various angles and triangles, addition and subtraction of angles, sine, cosine and tangent functions.
For AG "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Boolean Conversion
Teaches the uses of converting from logic diagrams to expressions and expressions to logic diagrams.
For AQ "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Basic Laws of Boolean
Teaches the laws and postulates of boolean algebra for simplifying expressions.
For AQ "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Basic Operations of Boolean
Teaches the logic of boolean symbols and the use of truth tables.
For AQ "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Boolean Simplification (Veitch Diagrams)
Teaches boolean simplification by use of Veitch diagrams.
For AQ "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Mathematics for Electronics
Explains and defines various terms and expressions pertaining to mathematics. It provides an explanation of the rules for exponents, algebraic expressions, linear equations, powers of ten, and geometry. Solution techniques for mathematical problems.
For Intermediate Electronics - Class A-2 ST School students.
Under development.
FLEET ASW SCHOOL, SAN DIEGO

(Mathematics)

Forces
Discusses forces, vector addition of forces, torque, stability, and friction.
For Class "A" School students at the Basic Propulsion Engineering School.
Under development.
SERVICE SCHOOL COMMAND, GREAT LAKES

Force
Teaches the definition, terms, and measurements of force vectors. Provides practice in the composition and resolution of simultaneous force vectors. Provides a detailed analysis of parallel forces, center of gravity and friction.
For TD "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Difference of Forces
Find the difference of force by the subtraction of vectors.
For AG "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Resultant of Forces
Find the resultant of two or more forces by the addition of vectors.
For AG "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Fractions and Ratios
Review of addition, subtraction, multiplication, and division of fractions, and setting up of ratios.
For AG "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Basic Math Review
Reviews basic mathematics including fractions, whole numbers, decimal fractions, cube and space computations.
For E-1 through O-3.
Planned for development.
LANDING FORCE TRAINING COMMAND, ATLANTIC

Powers of Ten and Metric Prefixes
Covers the use of powers of ten, scientific notation and metric prefixes.
For AO "A" & "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Solution of Right Triangles
Use of the pythagorean theorem, sine, cosine, and tangent in solution of right triangles.
For AG "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Signed Numbers
Teaches the basic operations of signed numbers, addition, subtraction, multiplication and division.
For Class "A" School trainees at the Basic Propulsion Engineering School.
Under development.
SERVICE SCHOOL COMMAND, GREAT LAKES

(Mathematics)

Signed Numbers

Review of addition, subtraction, multiplication, and division of like and unlike signed numbers.
For AG "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Slide Rule

Division with the slide rule.
For AG "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

(Meteorology)

The Adiabatic Process

The laws associated with and the processes involved in the atmospheric adiabatic process.
For AG "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Aviation Weather--Surface Aviation Weapon Observations, Part I

Designed to assist the trainee in learning to read and interpret teletype aviation weather reports. Covers the prevailing visibility section of the sequence report, and defines sector visibility, variable visability, and tower visibility.
For Air Controlman School, Class "A", students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, GLYNCO

Aviation Weather--Surface Aviation Weapon Observations, Part II

Designed to assist the trainee in learning to read and interpret teletype aviation weather reports. Covers the weather elements and obstructions-to-vision section of the sequence report. Explains when weather elements and obstructions-to-vision will be encoded into a sequence report, and explains the symbols used in encoding.
For Air Controlman School, Class "A", students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, GLYNCO

Aviation Weather--Surface Aviation Weather Observations, Part III

Designed to assist the trainee in learning to read and interpret teletype aviation weather reports. Covers the encoding and decoding of sea-level pressure, temperature, dew point, wind (includes gusts and squalls, and remarks.
For Air Controlman School, Class "A", students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, GLYNCO

Ceiling Identification

Ceiling definition and ceiling classification, including ceiling designation.
For AG "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

The Hydrostatic Equation

The application of the hydrostatic law to incompressable fluids and the atmosphere.
For AG "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

(Missiles)

The Stable Reference Platform

Basic principles of an Inertial Guidance System. Description and operation of a Stable Reference Platform. Component descriptions and functions. Twenty-five illustrations (panels). Trainee traces-in functional signals on block diagrams. Twenty-five item self test.
For Class "C" Schools, SUBROC, students
Under development.
NAVAL ADVANCED UNDERSEA WEAPONS SCHOOL, KEY WEST

(Navigation (Air))

Basic Air Navigation and Aids to Navigation--Instrument Landing System (ILS)

Describes the different components of the Instrument Landing System and the function of each. Contains information on supplementary components and their function when used in conjunction with ILS. Includes procedures used in making an ILS approach to familiarize the trainee with pilot techniques.
For Air Controlman School, Class "A", students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, GLYNCO

Cross Country Navigation

Teaches the procedures and information necessary to conduct a cross country instrument problem (cross country navigation procedures and flight planning techniques are included).
For TD "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Enroute Control Procedures

Teaches enroute air navigational procedures and communication. The program includes sections on FAA enroute services, pilot's procedures, and enroute flight information publications.
For TD "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Flight Regulations

Teaches basic flight rules and regulations governing the operation of aircraft as outlined in Federal Aviation Regulations, Part 91 (visual flight rules and instrument flight rules are included).
For TD "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Low Visibility Approaches

Teaches the principles of operation and equipment used in low visibility approaches. Sections on ground control approach procedures and instrument landing systems are included.
For TD "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Elements of Navigation

Teaches the basic terminology used in military navigation and standard plotting procedures.
For TD "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Radio Direction Findings

Teaches the basic principles and techniques of radio direction finding as an aid to navigation.
For TD "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

(Navigation (Air))

Terminal Procedures

Teaches procedures used in airport traffic control and explains the purpose of air traffic control services.
For TD "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

VHF and UHF Navigation Aids

Teaches the principles of operation of VHF and UHF navigation aids: VOR, TACAN, VORTAC, and navigational procedures.
For TD "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

(Navigation (Land))

The Lensatic Compass as Used in Land Navigation

Teaches fundamentals of reading, setting, and following the Lensatic Compass.
For Marines E-1 through E-3.
Planned for development.
LANDING FORCE TRAINING COMMAND, ATLANTIC

Map Reading - Symbology

For Functional training E-2 through E-4.
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

(Navigation (Sea))

Buoys

For officers.
Planned for development.
FLEET TRAINING CENTER, SAN DIEGO

Steering and Speed Control of the LCVP

Teaches prospective coxswains the correct ways of emergency speed and steering control and effects of weather on the LCVP.
For officers and enlisted E-2 through 0-4.
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

(Ordnance)

The AERO 65A Bomb Rack

Covers the general characteristics, operation, maintenance, and safety precautions pertaining to t[illegible] Aero 65A Bomb Rack and shackles.
For AO "A" & "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Introduction to Air Launched Guided Missiles

Covers symbols, components, basic operation and type of guidance systems.
For AO "A" & "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Introduction to the Mk 13 20MM Aircraft Gun

Covers general characteristics, safety features, and nomenclature of the Mk 12 Gun.
For AO "A" & "B" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

(Ordnance)
Introduction to the 20MM Automatic Gun M3
Covers general characteristics, safety features, and nomenclature of the M3 Gun.
For AO "A" & "B" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Calibration Indoctrination
Covers the importance of proper calibration of test equipment.
For AO "A" & "B" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Electric Bomb Fuze M990
Covers general description, components and functioning.
For AO "A" & "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Introduction to the Feed Mechanism Mk 7 Mod 2
Covers general characteristics, safety features and nomenclature of the Mk 7 Mod 2 Feed Mechanism.
For AO "A" & "B" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

2.75-inch FFAR
Revision to CNATT-J40--Revised to include new rocket motors, warheads, and fuzes.
For AO "A" & "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Introduction to the Gun Loader Mk 2 Mod 0
Covers general characteristics, safety features and nomenclature.
For AO "A" & "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Hazards of Electromagnetic Radiation to Ordnance (HERO)
Covers the hazards and the safety precautions to be observed while handling ordancne in areas of electromagnetic radiation.
For AG "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Mechanical Nose Fuze M904E2
Covers general description, components and operation of the M904E2.
For AO "A" & "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Mechanical Time Fuze M907
Covers general description, functioning and uses of the M907.
For AO "A" & "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

(Radar)

Anomolous Radar Propogation (Part 1)(FAAWTC PI-7)
Atmospheric variations which result in anomolous radar propogation and affect target detection.
For Naval officers and enlisted men with CIC team responsibilities.
Under development.
FLEET ANTI-AIR WARFARE TRAINING CENTER, SAN DIEGO

Anomolous Radar Propogation (Part 2)(FAAWTC PI-013)
Atmospheric variations which result in anomolous radar propogation; use of reports to predict anomolies.
For Naval officers and enlisted men with CIC team responsibilities.
Under development.
FLEET ANTI-AIR WARFARE TRAINING CENTER, SAN DIEGO

Fundamentals of Radar (FAAWTC PI-6)
Basic characteristics of radar emissions, computation of parameters affecting radar performance and techniques of scanning.
For Naval officers and enlisted men with CIC team responsibilities.
Under development.
FLEET ANTI-AIR WARFARE TRAINING CENTER, SAN DIEGO

(Shoehorn)

Shoehorn Sweeper Cart
For Naval Air Maintenance personnel.
Planned for development.
NAVAL AIR MAINTENANCE TRAINING GROUP, MEMPHIS

Shoehorn Troubleshooting
Will teach system troubleshooting.
For Naval Air Maintenance personnel.
Planned for development.
NAVAL AIR MAINTENANCE TRAINING GROUP, MEMPHIS

(Small Arms)

45 Caliber Pistol
Designed to introduce the trainee to the: Safety features of the military pistol caliber 45. Safety precautions to be observed while handling a military pistol. Proper method of firing the military pistol caliber 45.
For Basic Enlisted Submarine School students.
Under development.
NAVAL SUBMARINE SCHOOL, NEW LONDON

(Sonar)

Wave Motion and Sound
Teaches the properties and characteristics of sound. Provides an understanding of the variation of the pitch called doppler effect.
For TD "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

(Submarine Training)

Air Conditioning
This program is designed to introduce the trainee to the air conditioning equipment used aboard submarines. It covers the components and operating cycle of the Refrigerant 11 Vapor Compression Plant, and Lithium Bromide Absorption Plant.
For Basic Enlisted Submarine School students.
Under development.
NAVAL SUBMARINE SCHOOL, NEW LONDON

(Submarine Training)
Buoyancy and Stability
Designed to teach the trainee: The principles of buoyancy; the effects of sea water pressure on buoyancy. The special features of submarine construction and elementary operating principles of a submarine.
For Basic Enlisted Submarine School students.
Under development.
NAVAL SUBMARINE SCHOOL, NEW LONDON

(Support Ship)
Fire Support Ships and Armament
Teaches the types and roles of NGFS ships and the armament aboard each.
For officers and enlisted E-3 through O-4.
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

(Supporting Arms)
Naval Projectiles & Fuzes
For NAVPHIBSCOL students E-2 through O-4.
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

Planning for Target Destruction
For NAVPHIBSCOL students O-1 through O-4.
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

(3-M)
Introduction to the Maintenance and Material Management System
Designed to introduce the trainee to the 3-M System, the purpose and overall functions of the system, and the two parts of the system.
For Basic Enlisted Submarine School students.
Under development.
NAVAL SUBMARINE SCHOOL, NEW LONDON

PART 3

INDEX AND CROSS REFERENCE

INDEX AND CROSS REFERENCE

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PART 4

LISTING OF COMPLETE ADDRESSES FOR OBTAINING PI MATERIALS

Addresses are listed by activity (disregard the words Naval, Navy and Fleet when looking for the proper activity)

(USNA, ANNAPOLIS)
Superintendent
Naval Academy
Annapolis, Maryland 21402

(NAVADVUSEAWPNSCOL, ORLANDO)
Commanding Officer
Service School Command
Naval Training Center
Orlando, Florida 32813
Attn: Naval Advanced Undersea Weapons School

(CNAVANTRA, CORPUS CHRISTI)
Chief of Naval Air Advanced Training
Naval Air Station
Corpus Christi, Texas 78419

(CNABATRA, PENSACOLA)
Chief of Naval Air Basic Training
Naval Air Station
Pensacola, Florida 32508

(NAMTRAGRU, MEMPHIS)
Commanding Officer
Naval Air Maintenance Training Group
Naval Air Station, Memphis (71)
Millington, Tennessee 38054

(NAS, CHASE FIELD)
Commanding Officer
Naval Air Station
Chase Field
Beeville, Texas 78102

(NAS, KINGSVILLE)
Commanding Officer
Naval Air Station
Kingsville, Texas 78363

(NATTC, GLYNCO)
Commanding Officer
Naval Air Technical Training Center
Naval Air Station
Glynco, Georgia 31520

(NATTC, JACKSONVILLE)
Commanding Officer
Naval Air Technical Training Center
Naval Air Station
Jacksonville, Florida 32213

(NATTC, LAKEHURST)
Commanding Officer
Naval Air Technical Training Center
Naval Air Station
Lakehurst, New Jersey 08733

(NATTC, MEMPHIS)
Commanding Officer
Naval Air Technical Training Center
Naval Air Station, Memphis (85)
Millington, Tennessee 38054

(NATTU, PENSACOLA)
Commanding Officer
Naval Air Technical Training Unit
Box 56
Naval Air Station
Pensacola, Florida 32508

(FAETULANT)
Commanding Officer
Fleet Airborne Electronics Training Unit,
Atlantic
Naval Air Station
Norfolk, Virginia 23511

(FAETUPAC)
Commanding Officer
Fleet Airborne Electronics Training Unit,
Pacific
Naval Air Station
North Island
San Diego, California 92135

(NAVPHIBSCOL, LITTLE CREEK)
Commanding Officer
Naval Amphibious School, Little Creek
Naval Amphibious Base
Norfolk, Virginia 23521

(NAVPHIBSCOL, CORONADO)
Commanding Officer
Naval Amphibious School, Coronado
San Diego, California 92155

(FAAWTRACEN, SAN DIEGO)
Commanding Officer
Fleet Anti-Air Warfare Training Center
San Diego, California 92147

(FAAWTRACEN, DAM NECK)
Commanding Officer
Fleet Anti-Air Warfare Training Center
Dam Neck
Virginia Beach, Virginia 23461

(FLEASWSCOL, SAN DIEGO)
Commanding Officer
Fleet Anti-Submarine Warfare School
San Diego, California 92147

(BUMED)
Chief, Bureau of Medicine and Surgery
Navy Department
Washington, D. C. 20390

(BUPERS) (All Pers Numbers)
Chief of Naval Personnel (Pers-Cd11)
Navy Department
Washington, D. C. 20370

(NAVDESCOL, NEWPORT)
Commanding Officer
Naval Destroyer School
Newport, Rhode Island 02840

(LANFORTRACOMLANT)
Commanding General
Landing Force Training Command, Atlantic
Amphibious Training Command, Atlantic Fleet
Naval Amphibious Base, Little Creek
Norfolk, Virginia 23521

(NAVOSC, NEWPORT)
Commander
Naval Officer Candidate School
Naval Base
Newport, Rhode Island 02840

(NAVPERSRSCHACT, SAN DIEGO)
Commanding Officer
Naval Personnel Research Activity
San Diego, California 92152

(NAVPGSCOL, MONTEREY)
Superintendent
Naval Postgraduate School
Monterey, California 93940

(NAVSUBSCOL, NEW LONDON)
Commanding Officer
Naval Submarine School
Box 700, Naval Submarine Base, New London
Groton, Connecticut 06340

(NAVSCSCOL, ATHENS)
Commanding Officer
Navy Supply Corps School
Athens, Georgia 30601

(FLETRACEN, CHARLESTON)
Commanding Officer
Fleet Training Center
Naval Base, Unit 4, P. O.
Charleston, South Carolina 29408

(FLETRACEN, NEWPORT)
Commanding Officer
Fleet Training Center
Naval Base
Newport, Rhode Island 02840

(FLETRACEN, NORFOLK)
Commanding Officer
Fleet Training Center
Norfolk, Virginia 23511

(FLETRACEN, SAN DIEGO)
Commanding Officer
Fleet Training Center
Naval Station
San Diego, California 92146

(TRALANT)
Commander Training Command
U. S. Atlantic Fleet
Norfolk, Virginia 23511

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NAVPERS 93826A
CATALOG OF PROGRAMMED INSTRUCTIONAL MATERIAL
CHANGE 1

15 June 1971

The following is a list of effective pages in the Catalog after the pages distributed with this change have been inserted. This list is to be used to verify the completeness of the Catalog and to assure that only effective pages are retained. An "O" is used to indicate pages in the original edition of NAVPERS 93826A. New pages are indicated by the change number (e.g., CH-1).

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ADMINISTRATION

Inventory of Ship's Store Stock 6ND-NSCS-422-4-14 (10/65)
Identification Code: 6ND-NSCS-P-52
The student will learn the principles involved in conducting accurate inventories of ship's store stock in accordance with regulations set forth in Chapter 9 of NAVSUP Manual, Volume III.
Prepared for: Officer Students, NSCS
Type of Program: Linear-Branching
Average Time Required: 1 hour
Validation Data: Not available--Students are not tested on the subject matter included in the program immediately upon completion of the program; items covered by the program are included in an overall test given at a later point in the Basic Qualification Course.
Statement of objectives are not available from the developer.
Developer: NAVSCSCOL, ATHENS

Records
Identification Code: 6ND-NSCS-422-4-15
The student will learn, from the managerial standpoint, the principles involved in accurate General Mess records keeping in accordance with the regulations set forth in Chapter 7 of NAVSUP Manual, Volume III.
Prepared for: Basic Qualification Course students
Type of Program: Linear-Branching
Average Time Required: 1 hour

Validation Data:	Number of learners tested	128
	Low score	76
	High score	98
	Percentage who scored 90% or higher	50

Developer: NAVSCSCOL, ATHENS

AERODYNAMICS

Basic Aerodynamics, Part I
Identification Code: CNABT-P-713X PAT
Symbols and abbreviations, terminology, lift, drag, high-lift devices, and stalls.
Prepared for: Student Naval Aviators/Flight Preparation
Type of Program: Linear
Average Time Required: 2 hours and 55 minutes
Validation Data: Not Available
Developer: NABATRA, NAS, PENSACOLA

Introductory Aerodynamics - Helicopter
Identification Code: CNABT-P-523 PAT
Refreshes the memory of students and explains some of the differences between fixed and rotary aerodynamics. Includes terms peculiar to rotary-wing aerodynamics.
Prepared for: Helicopter Flight students
Type of Program: Branching
Average Time Required: 38 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

T-28 Aerodynamics
Identification Code: CNABT-P-524 PAT
Introduction to the T-28 including design, performance, maneuvers, stability, control, and systems.
Prepared for: Student Naval Aviators
Type of Program: Branching
Average Time Required: 2 hours and 48 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

AERODYNAMICS

Autorotation: Helicopter Aerodynamics
Identification Code: CNABT-P-715X PAT
Aerodynamics theory of the helicopter in an autorotative state.
Prepared for: Helicopter Flight students
Type of Program: Linear
Average Time Required: 30 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Drag
Identification Code: None. Use title.
Covers all drag generated by an aircraft by its two basic forms including types within the form.
Prepared for: Student Jet Aviators
Type of Program: Linear
Average Time Required: 45 minutes
Validation Data: Not available
Developer: NAS, KINGSVILLE

Rotary Wing Aerodynamics, Basic Helicopter Course, Class C
Identification Code: CNATT-M399 PAT
Covers the Aerodynamic principles that apply to the flight of the helicopter.
Prepared for: BASHEL C Course students
Type of Program: Linear
Average Time Required: 1 hour and 35 minutes

Validation Data:	Number of learners tested	64
	Low score	60
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, MEMPHIS

AIR CONDITIONING

Air Conditioning
Identification Code: F-000-010-002
Designed to introduce trainees to the air conditioning equipment used on board submarines. It covers the components and operating cycle of the Refrigerant 11 Vapor Compression Plant, and Lithium Bromide Absorption Plant.
Prepared for: Basic Enlisted Submarine School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 40 minutes

Validation Data:	Number of learners tested	100
	Low score	65
	High score	100
	Percentage who scored 90% or higher	88

Developer: SUBSCOL, NEW LONDON

Review of Air-Conditioning Principles
Identification Code: CNATT-N233 PAT
A review of the major components of an air-conditioning system, the four events of an air-conditioning cycle, the types of heat, the purpose for pressurizing refrigerants, and the two commonest refrigerants used in naval systems.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	72
	Low score	92
	High score	100
	Percentage who scored 90% or higher	92

Developer: NAMTRAGRU, NAS, MEMPHIS

AIR CONTROL

Air Navigation - The Earth

Identification Code: CNATT-P-5298 PAT

Includes specific terms and definitions used in conjunction with the earth and its coordinates. Involves solving problems in addition and subtraction of degrees, minutes, and seconds of latitude and longitude. Requires the trainee to learn and apply formulas for finding true bearing, relative bearing, and true heading.

Prepared for: Air Controlman School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 2 hours and 15 minutes

Validation Data:	Number of learners tested	76
	Low score	74
	High score	100
	Percentage who scored 88.1% or higher	89.2

Developer: NATTC, NAS, GLYNCO

Air Navigation - ILS

Identification Code: CNATT-P-5172 (Rev. 10-66) PAT

Describes the different components of the Instrument Landing System and the function of each. Contains information on supplementary components and their function when used in conjunction with ILS. Includes procedures used in making an ILS approach to familiarize the learner with pilot technique.

Prepared for: Air Controlman School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 2 hours and 20 minutes

Validation Data:	Number of learners tested	103
	Low score	70
	High Score	100
	Percentage who scored 88.2% or higher	88.9

Developer: NATTC, NAS, GLYNCO

Air Navigation - The Magnetic Compass

Identification Code: CNATT-P-5137 PAT

Describes the capabilities, limitations, operating principle, and specific terms used in conjunction with the magnetic compass. Includes basic navigational procedures used in applying variation and deviation when using the magnetic compass.

Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 2 hours

Validation Data:	Number of learners tested	113
	Low score	73
	High score	100
	Percentage who scored 90% or higher	92.9

Developer: NATTC, NAS, GLYNCO

Air Navigation - TACAN

Identification Code: CNATT-G17 PAT

Describes the uses, operational characteristics, and limitations of TACAN. Familiarizes the trainee with the aircraft equipment required to utilize this navaid.

Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 55 minutes

Validation Data:	Number of learners tested	104
	Low score	50.02
	High score	100
	Percentage who scored 90% or higher	89.5

Developer: NATTC, NAS, GLYNCO

AIR CONTROL

Air Navigation - VOR, Part I
Identification Code: CNATT-P-5278 PAT
Describes the uses and characteristics of VHF omnidirectional ranges and the aircraft equipment required to utilize this aid to navigation. This program does not include pilot orientation procedures and must be supplemented with practical application by conventional teaching methods. VOR, Part II, must be used in conjunction with this program.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 20 minutes

Validation Data:	Number of learners tested	66
	Low score	77
	High score	100
	Percentage who scored 90% or higher	88.7

Developer: NATTC, NAS, GLYNCO

Air Navigation - VOR, Part II
Identification Code: CNATT-P-5269 PAT
Contains the frequency range, power output, anticipated altitude service and interference free distance service of VOR. Includes operational characteristics and limitations of associated DME components. Describes the make-up of VOR airways structure used within the United States. This program must be preceded by VOR, Part I.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 54 minutes

Validation Data:	Number of learners tested	66
	Low score	75
	High score	100
	Percentage who scored 90% or higher	90.3

Developer: NATTC, NAS, GLYNCO

Air Route Traffic Control - Lateral Separation
Identification Code: CNATT-G8 PAT
Specifies the minima utilized in applying lateral separation between IFR aircraft en route and holding. The procedures that are used by Air Route Traffic Control Centers and approach control facilities in applying separation minima are included.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 20 minutes

Validation Data:	Number of learners tested	81
	Low score	72
	High score	100
	Percentage who scored 86% or higher	98.8

Developer: NATTC, NAS, GLYNCO

AIR CONTROL

Air Route Traffic Control - Longitudinal Separation, Part I
Identification Code: CNATT-G15 PAT
Covers the minima and procedures utilized in the application of longitudinal separation as applied in time and distance by the Air Route Traffic Control Centers. Includes the procedures to be used between IFR aircraft departing and en route, same direction. (En route altitude changes are not included in this program.) This program must be supplemented by conventional instruction in the application of the rules. Longitudinal Separation, Part II, is required to complete this unit of instruction.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 1 hour

Validation Data:	Number of learners tested	89
	Low score	75
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, GLYNCO

Air Route Traffic Control - Longitudinal Separation, Part II
Identification Code: CNATT-G23 PAT
Contains the minima and procedures utilized in the application of longitudinal separation by Air Route Traffic Control Centers during altitude changes. Includes the procedures to be used for altitude change between IFR aircraft on the same or opposite courses. This program must be supplemented by conventional instruction in the application of the rules, and the instructional program Longitudinal Separation, Part I.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	81
	Low score	50
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, GLYNCO

Air Route Traffic Control - Timed Approaches
Identification Code: CNATT-G22 PAT
Contains the requirements that must be met before timed approaches may be conducted at an airport. Includes the minimum separation and what factors are taken into consideration when determining this minima.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	55
	Low score	83
	High score	100
	Percentage who scored 90% or higher	98

Developer: NATTC, NAS, GLYNCO

AIR CONTROL

Air Route Traffic Control - Vertical Separation
Identification Code: CNATT-G7 PAT
Specifies the minima utilized in applying vertical separation between IFR aircraft en route, climbing, or descending. Increases the procedures that are used by Air Traffic Control in applying the minima. Conventional instruction is required to teach the trainee how to apply these rules.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 25 minutes

Validation Data:	Number of learners tested	66
	Low score	79
	High score	100
	Percentage who scored 90% or higher	93.8

Developer: NATTC, NAS, GLYNCO

Air Route Traffic Control - VFR Operations, Part I
Identification Code: CNATT-G42 PAT
Contains the procedures for the control of IFR aircraft operating with a VFR restriction.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	74
	Low score	79
	High score	100
	Percentage who scored 86% or higher	98.79

Developer: NATTC, NAS, GLYNCO

Air Route Traffic Control - VFR Operations, Part II
Identification Code: CNATT-G47 PAT
Covers separation minima used between special VFR helicopters and IFR fixed-wing aircraft.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	78
	Low score	65
	High score	100
	Percentage who scored 86% or higher	94.6

Developer: NATTC, NAS, GLYNCO

Air Traffic Rules - Cruising Altitude Rules
Identification Code: CNATT-G24 PAT
Rules that pilots must comply with in respect to the currect altitude for the direction of flight. Includes rules for flight in all airspace, whether the flight is operating under visual or instrument flight rules. This program must be supplemented by conventional instruction in the application of these rules.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 5 minutes

Validation Data:	Number of learners tested	82
	Low score	50
	High score	100
	Percentage who scored 90% or higher	90.3

Developer: NATTC, NAS, GLYNCO

AIR CONTROL

Air Traffic Rules - General Rules
Identification Code: CNATT-G55 PAT
Interprets and teaches the application of selected portions of Federal Aviation Regulations, Parts 91 and 105, as they apply to air traffic control.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 45 minutes
Validation Date:

Number of learners tested	100
Low score	67.5
High score	100
Percentage who scored 90% or higher	88

Developer: NATTC, NAS, GLYNCO

Air Traffic Rules - IFR Communications
Identification Code: CNATT-G9 PAT
Provides the trainee with knowledge of the procedures executed by the pilot in the event of two-way communications failure and the action to be taken by Air Traffic Control in the event a pilot loses communications while en route.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 5 minutes
Validation Data:

Number of learners tested	77
Low score	82
High score	100
Percentage who scored 90% or higher	91

Developer: NATTC, NAS, GLYNCO

Airport Traffic Control-Airport Facilities
Identification Code: CNATT-G33 PAT
Contains the factors which influence the selection of an airport site and the proper methods used in numbering runways and marking the compass rose. Describes taxiway markings, holding post markings, and Navy standard markings. Explains the uses and purposes of wind direction indicators.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 55 minutes
Validation Data:

Number of learners tested	94
Low score	89
High score	100
Percentage who scored 90% or higher	90.4

Developer: NATTC, NAS, GLYNCO

Airport Traffic Control - Airport Lighting
Identification Code: CNATT-G50 PAT
Covers the location, spacing, and colors of standard lighting aids at U. S. airports.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 15 minutes
Validation Data:

Number of learners tested	91
Low score	83
High score	100
Percentage who scored 90% or higher	91.2

Developer: NATTC, NAS, GLYNCO

AIR CONTROL

Airport Traffic Control - Altimeter Setting Information

Identification Code: CNATT-G30 PAT

Procedures for the use of the aircraft altimeter and the altimeter setting indicator in the control tower. Contains the steps to be taken in determining the correct altimeter setting for each indicator.

Prepared for: Air Controlman School, Class A, students

Type of Program: Linear

Average Time Required: 50 minutes

Validation Data:	Number of learners tested	84
	Low score	75.1
	High score	100
	Percentage who scored 90% or higher	97.6

Developer: NATTC, NAS, GLYNCO

Airport Traffic Control - Separation Minima

Identification Code: CNATT-G10 (Rev. 9-68) PAT

Contains the procedures and rules to be applied between fixed-wing aircraft and/or helicopters while landing and taking off in VFR weather conditions. Sets forth the procedures to effect separation of VFR traffic, the minima and exceptions to minima between all types of aircraft landing and taking off in VFR conditions.

Prepared for: Air Controlman School, Class A, students

Type of Program: Linear

Average Time Required: 1 hour and 15 minutes

Validation Data:	Number of learners tested	75
	Low score	71.5
	High score	100
	Percentage who scored 90% or higher	89.33

Developer: NATTC, NAS, GLYNCO

Airport Traffic Control - Special VFR Operations Within the Control Zone

Identification Code: CNATT-G20 PAT

Contains criteria and procedures applicable to both pilots and controllers to conduct Special VFR Operations in the control zone when weather conditions are less than basic VFR minima.

Prepared for: Air Controlman School, Class A, students

Type of Program: Linear

Average Time Required: 1 hour and 5 minutes

Validation Data:	Number of learners tested	85
	Low score	79
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, GLYNCO

AIR CONTROL

Aviation Weather - Aviation Weather Forecasts
Identification Code: CNATT-G43 PAT
Instructs the trainee on the winds-aloft forecasts, area forecasts, and terminal forecasts, the periods covered, and the methods of transmission.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 15 minutes

Validation Data:	Number of learners tested	97
	Low score	76.9
	High score	100
	Percentage who scored 92% or higher	97.9

Developer: NATTC, NAS, GLYNCO

Aviation Weather - Hazardous Weather Elements Affecting Aviation
Identification Code: CNATT-G52 PAT
Covers the characteristics of thunderstorms, icing conditions, tornadoes, funnel clouds, and waterspouts.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 55 minutes

Validation Data:	Number of learners tested	71
	Low score	79
	High score	100
	Percentage who scored 90% or higher	89.6

Developer: NATTC, NAS, GLYNCO

Aviation Weather - Pilot Weather Reports (PIREP's)
Identification Code: CNATT-G39 PAT
Includes weather elements and values reportable by the pilot. The proper format to be used when transmitting a PIREP via teletype, radio or landline.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 20 minutes

Validation Data:	Number of learners tested	78
	Low score	70
	High score	100
	Percentage who scored 90% or higher	91.03

Developer: NATTC, NAS, GLYNCO

Aviation Weather - Surface Aviation Weather Observations, Part 1
Identification Code: CNATT-G57 PAT
Designed to assist the trainee in learning to read and interpret teletype aviation weather reports. Covers the prevailing visibility section of the sequence report, and defines sector visibility, variable visibility, and tower visibility.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	65
	Low score	77
	High score	100
	Percentage who scored 90% or higher	90.6

Developer: NATTC, NAS, GLYNCO

AIR CONTROL

Aviation Weather - Surface Aviation Weather Observations, Part II
Identification Code: CNATT-G58 PAT
Designed to assist the trainee in learning to read and interpret teletype aviation weather reports. Covers the weather elements and obstructions-to-vision section of the sequence report. Explains when weather elements and obstructions-to-vision will be encoded into a sequence report, and explains the symbols used in encloding.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	59
	Low score	65
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, GLYNCO

Aviation Weather - Surface Aviation Weather Observations, Part III
Identification Code: CNATT-G60 PAT
Designed to assist the trainee in learning to read and interpret teletype aviation weather reports. Covers the encoding and decoding of sea-level pressure, temperature, dew point, wind (includes gusts and squalls), altimeter, and remarks. NOTE: Written for the Air Controlman School, Class A. Previous lessons covered by programs implemented in the school and through conventional teaching methods are prerequisites for this program.
Prepared for: Air Controlman School, Class A, students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	64
	Low score	75
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, GLYNCO

Aviation Weather - Weather Sequence Report
Identification Code: CNATT-M460 PAT
Teaches the student how to encode and decode the parts of the weather sequence report dealing with cloud heights, visibility, temperature, and wind. This lesson does not teach the complete weather sequence report.
Prepared for: MARAOC C Course Students
Type of Program: Linear
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	50
	Low score	83.85
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, MEMPHIS

AIR CONTROL

VT-1 Course Rules
Identification Code: CNABT-P-582 PAT
The course rules governing aircraft during a normal flying day at NAAS Saufley Field.
Prepared for: VT-1, Student Naval Aviators
Type of Program: Linear
Average Time Required: 54 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

AIR INTELLIGENCE

Air Intelligence
Identification Code: CNABT-P-527 PAT
Discusses the major fields of intelligence and explains the meaning and workings of the intelligence cycle.
Prepared for: Naval Flight Officers students
Type of Program: Branching
Average Time Required: 3 hours
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

AIRCRAFT

A-7 Fuel System Familiarization
Identification Code: CNATT-N158 PAT
The major systems in the A-7 fuel system; the number of tanks and fuel capacity of the main system, the transfer system, the external and tanker system; the purpose of the Douglas D704, the motive flow selector valves, and the manual fuel shutoff valve; the methods of fueling the A-7; and the amount of fuel which may be defueled from the A-7. Also covers fuel transfer in the A-7, the type of fuel vent system, the number of thermistors in the A-7, and other pertinent information designed to familiarize the student with the A-7 fuel system.
Prepared for: Naval Air Maintenance Training Detachments students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	54
	Low score	80
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

A-7 Fuel System Operation (for A-7A Aircraft)
Identification Code: CNATT-N216 PAT
Contains information concerning the fuel tanks, the transfer of fuel by motive flow, the selector valves, the fuel quantity transmitters, the fuel density compensators, fueling and defueling operations, and the pressure sensitive stop value.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 1 hour and 40 minutes

Validation Data:	Number of learners tested	59
	Low score	60
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

A-7A Power Plant - TF30-P-6 Cold Section
Identification Code: CNATT-N52 PAT
Covers the location of the TF30 Cold Section engine stations, cases, flanges, rotor stages, probes, and bleed valves. It also covers the type of bearing and carbon seals located in each bearing area of the TF30 Cold Section.
Prepared for: NAMTRADETS A-7 students
Type of Program: Linear
Average Time Required: 1 hour and 20 minutes

Validation Data:	Number of learners tested	72
	Low score	80
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

AIRCRAFT

Aircraft Hardware

Identification Code: CNATT-M466 PAT

Teaches the student the basic types of aircraft hardware (nuts, bolts and fasteners) and their proper use.

Prepared for: AFUN P School students

Type of Program: Linear

Average Time Required: 1 hour and 15 minutes

Validation Data:	Number of learners tested:	50
	Low score	73.96
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Hydraulic Fundamentals, Part I

Identification Code: CNATT-N-677

Teaches the definitions of force and pressure. It also explains how to apply Pascal's law in solving force, pressure, and area problems, and teaches definitions of hydraulics and matter.

Prepared for: NAMTRADETS students

Type of Program: Linear

Average Time Required: 30 minutes

Validation Data:	Number of learners tested	62
	Low score	76
	High score	100
	Percentage who scored 90% or higher	93

Developer: NAMTRAGRU, NAS, MEMPHIS

Hydraulic Fundamentals, Part II

Identification Code: CNATT-N-678

Teaches the primary, secondary, and auxiliary uses of hydraulics along with component identification. The materials used for specific hydraulics line application is also taught.

Prepared for: NAMTRADETS students

Type of Program: Linear

Average Time Required: 30 minutes

Validation Data:	Number of learners tested	52
	Low score	76
	High score	100
	Percentage who scored 90% or higher	96

Developer: NAMTRAGRU, NAS, MEMPHIS

Hydraulic Fundamentals, Part III

Identification Code: CNATT-N-724

Covers hydraulic line designations, the types of fittings used on rigid tubing, and the types of seals used in an aircraft hydraulic system.

Prepared for: NAMTRADETS students

Type of Program: Linear

Average Time Required: 30 minutes

Validation Data:	Number of learners tested	50
	Low score	61
	High score	100
	Percentage who scored 90% or higher	96

Developer: NAMTRAGRU, NAS, MEMPHIS

AIRMAN FUNDAMENTALS

Theory of Flight
Identification Code: CNATT-P-5059 (Rev. 11-66) PAT
Provides an understanding of the forces that act on an aircraft and the principles involved for sustained flight.
Prepared for: Class A School students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 40 minutes

Validation Data:		
	Number of learners tested	77
	Low score	82
	High score	100
	Percentage who scored 90% or higher	90.77

Developer: NATTC, NAS, JACKSONVILLE

AMPHIBIOUS OPERATIONS

Air Movement Planning
Identification Code: E-703
Program consists of 20 frames designed to teach the students to plan for and execute plans for air movement. The program, although slanted to administrative moves by C-124 and C-135 aircraft, contains techniques and procedures that are applicable as guidance in planning any type of administrative move via any type of air cargo/troup carrier. (Could be utilized by any unit involved in air movement planning whether by commercial or military aircraft. Program is not designed to teach cargomasters, loadmaster or crew chiefs weights and balances and/or tie down within the aircraft.)
Prepared for: Enlisted students of Embarkation Courses
Type of Program: Linear
Average Time Required: 6 hours
Validation Data: Not available
Developer: LANFORTRACOMLANT, NAVPHIBASE, LITTLE CREEK

Amphibious Operations (Organization and Command)
Identification Code: H-611-09
Enables the trainee to be able to state and list purposes and five functions of the initiating directives, responsibilities of major commands of the military services, who can assume command of landing force units.
Prepared for: Officer students
Type of Program: Linear
Average Time Required: 58 minutes

Validation Data:		
	Number of learners tested	55
	Low score	90
	High score	100
	Percentage who scored 90% or higher	100

Developer: NAVPHIBSCOL, CORONADO

Concept of Amphibious Operations
Identification Code: H-611-07
Designed to give a basic understanding of the basic principles of amphibious operations: advantages, disadvantages, purposes, relative strength requirements, the phases, and the procedure for termination of an amphibious operation.
Prepared for: Officer students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:		
	Number of learners tested	150
	Low score	72.5
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAVPHIBSCOL, CORONADO

AMPHIBIOUS OPERATIONS

Broken Stowage and Understow
Identification Code: E-702
Consists of 18 frames designed to introduce the student to the concept of space/cargo as used in combat loading amphibious ships for the amphibious assault. It continues beyond this concept and cover the planning and drawing of the representation of bult cargo understowed in the Tank Deck of an LST. (Program has no particular applicability to anyone not charged with the task of combat loading amphibious ships.)
Prepared for: Enlisted students of Embarkation Courses
Type of Program: Linear
Average Time Required: 30 minutes
Validation Data:

Number of learners tested	300
Low score	40
High score	100
Percentage who scored 90% or higher	83

Developer: LANFORTRACOMLANT, NAVPHIBASE, LITTLE CREEK

Embarkation Mathematics
Identification Code: E-704
Consists of 143 frames designed to give the student a comprehensive review of arithmetic applicable to embarkation. (This program is not for use for teaching arithmetic to any students who are not involved in embarkation for amphibious operations.)
Prepared for: Enlisted students of Embarkation Courses
Type of Program: Linear
Average Time Required: 2 hours and 30 minutes
Validation Data:

Number of learners tested	400
Low score	60
High score	100
Percentage who scored 90% or higher	85

Developer: LANFORTRACOMLANT, NAVPHIBASE, LITTLE CREEK

MEDS
Identification Code: E-705
Consists of 57 frames designed to teach students how to prepare the worksheets used by key punch operators in preparing EAM cards that make up the basic data base for the mechanized embarkation data system.
Prepared for: Officer/Enlisted students of Embarkation Courses
Type of Program: Linear
Average Time Required: 6 hours
Validation Data:

Number of learners tested	500
Low score	60
High score	100
Percentage who scored 90% or higher	85

Developer: LANFORTRACOMLANT, NAVPHIBASE, LITTLE CREEK

AMPHIBIOUS OPERATIONS

Serials for the Landing Force
Identification Code: E-701
Consists of 55 frames designed to introduce the students to serials and their use in the amphibious operation. Beginning with a definition and complete understanding of what a serial is, and continuing to a student performance of allocating and assigning serials to elements of the Landing Force, the program directs the students to the identification of the landing categories of the ship-to-shore movement. Finally, the students, using a Landing Plan for an amphibious operation, actually list the serials to be embarked in their assigned ship in the order that they will be debarked for participation in the amphibious assault.
Prepared for: Enlisted students of Embarkation Courses
Type of Program: Linear
Average Time Required: 2 hours

Validation Data:	Number of learners tested	300
	Low score	55
	High score	100
	Percentage who scored 90% or higher	85

Developer: LANTORTRACOMLANT, NAVPHIBASE, LITTLE CREEK

Vehicle Template Preparation and Turning Factors Aboard Landing Ship
Identification Code: E-709
To teach the students how to label Vehicle Templates, position templates on Landing Ships, and utilize turning radis planning factors. An Architect's Scale with 1/8" markings is needed.
Prepared for: Officer and enlisted attending LFTC Embarkation Courses
Type of Program: Linear
Average Time Required: 45 minutes
Validation Data: Not available
Developer: LANFORTRACOMLANT, NAVPHIBASE, LITTLE CREEK

ANTI-SUBMARINE WARFARE

ASW Plotting Symbols for the DRT
Identification Code: None. Use title.
Designed to provide on-the-job instruction for shipboard personnel in the use of ASW plotting symbols. It consists of two parts: (1) Programmed course for ASW plotting symbols for the DRT; (2) Self-contained test sheets. Upon completion of this program, trainees will be able to identify by name and configuration those symbols necessary for plotting ASW attacks on the DRT.
Prepared for: Radarman aboard ship
Type of Program: Linear
Average Time Required: 1 hour and 35 minutes

Validation Data:	Number of learners tested	144
	Low score	2.9
	High score	4.0
	Percentage who scored 90% or higher	69

Developer: FAAWTC, DAM NECK

The Bathythermograph, A Programmed Learning Course
Identification Code: None. Use title.
Conventional BT: Components of temperature and pressure assemblies, temperature ranges, maximum depths and speeds, cable required, inspections, maintenance and slide labeling.
Expendable BT: Eight basic parts, temperature range, speeds and depths. Preparation of logs and radio messages.
Prepared for: Fleet Officers and Enlisted students
Type of Program: Linear
Average Time Required: 3-4 hours
Validation Data: Not available
Developer: FTC NEWPORT

ANTI-SUBMARINE WARFARE

The Conventional Bathythermograph; Expendable BT; Log Completion and Trace Interpretation
Identification Code: None. Use title.
The operation and maintenance of the conventional and expendable bathythermograph. Trace interpretation and reporting procedures.
Prepared for: General non-rated
Type of Program: Linear
Average Time Required: 4 hours and 13 minutes

Validation Data:	Number of learners tested	21
	Low score	88
	High score	100
	Percentage who scored 90% or higher	95

Developer: FTC, NEWPORT

Evasive Steering (A CONFIDENTIAL Program)
Identification Code: FAAWTC SD PI-05A
Focuses upon two basic techniques of submarine and torpedo evasion, zigzagging, and emergency turns. Also covers simuating and weaving briefly. Covers evasion of the torpedo attacks.
Prepared for: CIC Watch Officer students, CIC Team Training
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	256
	Low score	56
	High score	100
	Percentage who scored 90% or higher	70

Developer: FAAWTC, SAN DIEGO

General Nucleonics (Part I)
Identification Code: NavPers (2641-1
This program is the first unit of a two-part program in General Nucleonics. Part 1 covers the symptoms of radiation poisoning and lethal and sub-lethal doses of radiation.
Prepared for: TM Class "A" Surface and Submarine Courses students
Type of Program: Mathetics
Average Time Required: 55 minutes

Validation Data:	Number of learners tested	85
	Low score	65
	High score	100
	Percentage who scored 90% or higher	90

Developer: BUPERS (PERS-C13)

General Nucleonics (Part II)
Identification Code: NavPers 92641-2
This program is a sequel to General Nucleonics (Part I). It presents general guidelines to be followed where nuclear accidents or incidents are involved.
Prepared for: TM Class "A" Surface and Submarine Courses students
Type of Program: Mathetics (with panels)
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	35
	Low score	69
	High score	100
	Percentage who scored 90% or higher	90

Developer: BUPERS (PERS-C13)

ANTI-SUBMARINE WARFARE

Navol Surveillance Indicator Panel Mk 25 Mods 4 and 5
Identification Code: NavPers 93738-2
Covers front panel operating procedures utilizing either the Mk 25 Mod 4 or 5 Indicator Panel connected to a Mk 16 Mod 8 torpedo. Computations relating to the decomposition rate of Navol are charted on Surveillance Charts in accordance with procedures in OP 2744.
Prepared for: TM A (Sub) Class A, Mk 16 Mod 8 Torpedo Class C School students
Type of Program: Linear (with panels)
Average Time Required: 30 minutes

Validation Data:	Number of learners tested	125
	Low score	65
	High score	100
	Percentage who scored 90% or higher	88

Statement of objectives are included in program.
Developer: BUPERS (PERS-C13)

SUBROC Flight Sequence
Identification Code: NavPers 93738-5
Covers Pre-launch and Flight Sequence of the SUBROC Missile.
Prepared for: TM "A" Submarine and SUBROC Missile Assembly Courses students
Type of Program: Mathetics
Average Time Required: 30 minutes

Validation Data:	Number of learners tested:	56
	Low score	76
	High score	100
	Percentage who scored 90% or higher	87

Developer: BUPERS (PERS-C13)

Test Set Mk 281 Mod 0, Front Panel Operation
Identification Code: NavPers 93738-3
Covers front panel operation of the test set. Provides for setting synchronous and non-synchronous functions in a torpedo. Power supply for torpedo warm-up and firing included.
Prepared for: Class C School students (submarine weapons)
Type of Program: Linear-Branching with full apron panel
Average Time Required: 1 hour and 15 minutes

Validation Data:	Number of learners tested	60
	Low score	72
	High score	100
	Percentage who scored 90% or higher	85

Developer: BUPERS (PERS-C13)

Flow of Air, Fuel and Water in Torpedo Mk 14 Mod 5
Identification Code: NavPers 93738-1
Oriented to and utilizes terminology concerning the flow of air, fuel, and water in the propulsion system of the Mk 14 Mod 5 Torpedo. It is a substitution for certain discussion points in the Mk 14 Mod 5, Maintenance Course I/G (NAVPERS 93738) and the Torpedoman's Mate Class "A" Submarine Course I/G (NAVPERS 92641B). It is recommended that the trainee study Chapters 2 and 4 of NAVWEPS OP 2059 (First Revision) prior to commencing the program.
Prepared for: Mk 14 Mod 5 Torpedo Class C, TMA (Sub) School students
Type of Program: Linear-Branching-Mathetics
Average Time Required: 1 hour

Validation Data:	Number of learners tested	130
	Low score	71
	High score	100
	Percentage who scored 90% or higher	91

Statement of objectives are included in program.
Developer: BUPERS (PERS-C13)

ANTI-SUBMARINE WARFARE

Torpedo Mk 14 Mod 5, Propulsion System
Identification Code: NavPers 93738-4
Covers the mechanical principles of the Main Engine of the Torpedo from turbines to propellers. Special stress is placed on the fact that the engine components are in pairs rotating in opposite directions to neutralize gyroscopic and torque effects to perfect a "balanced engine."
Prepared for: Class A and C Schools students
Type of Program: Linear, Branching, Mathetics (with panels)
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	122
	Low score	75
	High score	100
	Percentage who scored 90% or higher	90

Developer: BUPERS (PERS-C13)

Torpedo Mk 16 Mod 8, Energy Control System (A CONFIDENTIAL Program)
Identification Code: NavPers 93738-5
Covers the flow of Navol, fuel, and water and firing sequences of delivery valves during the torpedo run.
Prepared for: Class A and C Schools students
Type of Program: Linear, Branching (with full apron panel)
Average Time Required: 2 hours and 30 minutes

Validation Data:	Number of learners tested	160
	Low score	56
	High score	100
	Percentage who scored 90% or higher	89

Developer: BUPERS (PERS-C13)

The Air-Launched Mk 44 and Mk 46 ASW Torpedoes (A CONFIDENTIAL Program)
Identification Code: FAETUPAC PUB #3360-5
Covers the design and operation of the air-launched Mk 44 and Mk 46 ASW Torpedoes. A detailed comparison of the performance characteristics of the two weapons, aircraft launching data computations for the delivery pilot/TACCO, and other employment considerations such as safe stand-off distances for friendly forces and sources of possible weapon interference are also included. The material is written for the ASW aircraws that would be delivering such weapons and not for AUW shop technicians.
Prepared for: ASW Tactics Course students
Type of Program: Linear
Average Time Required: 1 hour and 38 minutes

Validation Data:	Number of learners tested	92
	Low score	86
	High score	100
	Percentage who scored 90% or higher	97.8

Developer: FAETUPAC, NAS, NORTH ISLAND

AVIATION

Aircraft Carriers
Identification Code: CNATT-N215 PAT
Contains general information intended to give the student a basic knowledge of aircraft carriers. Program covers some of the history of carriers, types of carriers, missions, air department divisions, and some shipboard safety precautions peculiar to aircraft carriers.
Prepared for: NAMTRADETS students
Type of Program: Linear-Branching
Average Time Required: 1 hour

Validation Data:	Number of learners tested	56
	Low score	92
	High score	100
	Percentage who scored 90% or higher	92

Developer: NAMTRAGRU, NAS, MEMPHIS

AVIATION

Bernoulli's Principle
Identification Code: CNABT-P-637X PAT
Equation of continuity as applied to fluid flow; fluid flow energy in terms of pressure by identifying the relationship between pressure and energy.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 14-16 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

T-2A Canopy Operation
Identification Code: CNABT-P-590X PAT
Upon completion, the students should be able to: (1) Locate controls; (2) Recognize a complete working description of the three methods of operating the canopy; (3) Describe the function of the canopy warning lights; and (4) Recognize the maximum speed for opening and closing the canopy.
Prepared for: Students in Basic Jet Phase
Type of Program: Linear
Average Time Required: 15 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Introduction to Liquid Oxygen Servicing Trailer Type 4
Identification Code: CNATT-N-668
Covers all components and controls of the Type 4 Liquid Oxygen Servicing Trailer along with safety precautions and operating procedures.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 40 minutes
Validation Data: Number of learners tested 62
Low score 87
High score 100
Percentage who scored 90% or higher 98
Developer: NAMTRAGRU, NAS, MEMPHIS

The Military Flight Plan
Identification Code: CNATT-M461-PAT
Requires the student to make pilot entries on the Military Flight Plan. The program is very basic. Its only purpose is to acquaint the student with the location of the information and how to encode the information for transmission to flight service.
Prepared for: MARAOC C Course students
Type of Program: Linear
Average Time Required: 1 hour and 14 minutes
Validation Data: Number of learners tested 60
Low score 82.50
High score 100
Percentage who scored 90% or higher 93.5
Developer: NATTC, NAS, MEMPHIS

The NOTAM
Identification Code: CNATT-M459 PAT
Teaches the student how to write basic NOTAM messages, how to read incoming NOTAM messages, and how to post NOTAMS.
Prepared for: MARAOC C Course students
Type of Program: Linear
Average Time Required: 4 hours and 40 minutes
Validation Data: Number of learners tested 50
Low score 86
High score 100
Percentage who scored 90% or higher 90
Developer: NATTC, NAS, MEMPHIS

AVIATION

Slope
Identification Code: CNABT-P-613 PAT
What slope is and how to solve slope problems.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 8 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Squadron Operations (A 16 part program, each part is listed below with the data peculiar to each part. The data directly below applies to all of the parts and is listed only once. Worksheets for this program are contained in 'Material Book, Squadron Operations, Part XVI."
Prepared for: MARAOC (C) Course students
Type of Program: Adjunct
Validation Data: (All scores in this series were based on an average of the entire series)

Number of learners tested	50
Low score	89
High score	100
Percentage who scored 90% or higher	91

Developer: NATTC, NAS, MEMPHIS

******

Squadron Operations, Part I, Introduction to the "Yellow Sheet" (OPNAV 3760-2)
Identification Code: CNATT-M442 PAT
Introduces the student to the different parts of the Naval Aircraft Flight Record (OPNAV 3760-2).
Average Time Required: 20 minutes

******

Squadron Operations, Part II, Introduction to the Aviators Flight Log Book
Identification Code: CNATT-M443 PAT
Teaches the student the various sections of the Aviators Flight Log Book.
Average Time Required: 25 minutes

******

Squadron Operations, Part III, Aviators Flight Log Book--Flight-By-Flight Section
Identification Code: CNATT-M444 PAT
Teaches the student how to make entries in the Flight-By-Flight Section of the Aviators Flight Log Book.
Average Time Required: 25 minutes

******

Squadron Operations, Part IV, 'Master Flight Log"
Identification Code: CNATT-M445 PAT
Teaches the student how to make entries in the Master Flight Log.
Average Time Required: 45 minutes

******

Squadron Operations, Part V, 'Master Flight Log" and Aviators Flight Log Book
Identification Code: CNATT-M446 PAT
Gives the student practice in transcribing entries from the "Yellow Sheet" to the 'Master Flight Log" and the Aviators Flight Log Book.
Average Time Required: 2 hours

******

CATAPULTS AND ARRESTING GEAR

Introduction to Mk 7 Arresting Gear
Identification Code: CNATT-L95 PAT
Provides a general breakdown of engine and components. Provides general information of arrangement of the arresting gear.
Prepared for: Class A/C School students
Type of Program: Linear
Average Time Required: 37 minutes

Validation Data:	Number of learners tested	67
	Low score	94
	High score	100
	Percentage who scored 90% or higher	100

Developer: NATTC, NAS, LAKEHURST

Catapults and Arresting Gear
Identification Code: None. Use title.
Provides an understanding of all necessary publications, records and reports needed for proper operation, safety, maintenance, and quality control of all equipment and personnel involved with operation of catapults.
Prepared for: ABE "A" School students
Type of Program: Linear
Average Time Required: 29 minutes

Validation Data:	Number of learners tested	63
	Low score	88
	High score	100
	Percentage who scored 90% or higher	97

Developer: NATTC, NAS, LAKEHURST

Electrical Devices for Catapults and Arresting Gear
Identification Code: None. Use title.
Covers nomenclature, description, and operation of electrical devices used in catapults and arresting gear.
Prepared for: Aviation Boatswain's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 37 minutes

Validation Data:	Number of learners tested	54
	Low score	90
	High score	100
	Percentage who scored 95% or higher	90

Developer: NATTC, NAS, LAKEHURST

Mark 7 Mod 1 Engine Framework, Cylinder, and Ram
Identification Code: CNATT-L107 PAT
To teach the student the purpose, location, construction, and general operating principle of the engine framework, cylinder, and ram for the MARK 7 MOD 1 Arresting Gear Engine.
Prepared for: AB Class A School students
Type of Program: Linear
Average Time Required: 35 minutes

Validation Data:	Number of learners tested	80
	Low score	55
	High score	100
	Percentage who scored 90% or higher	95

Developer: NATTC, NAS, LAKEHURST

CATAPULTS AND ARRESTING GEAR

Mark 7 Mod 2 Engine Framework, Cylinder, and Ram
Identification Code: CNATT-L108 PAT
To teach the student the purpose, location, construction, and general operating principle of the engine framework, cylinder, and ram for the Mark 7 Mod 2 Arresting Gear Engine.
Prepared for: AB Class A School students
Type of Program: Linear
Average Time Required: 35 minutes

Validation Data:	Number of learners tested	80
	Low score	85
	High score	100
	Percentage who scored 90% or higher	97

Developer: NATTC, NAS, LAKEHURST

Catapult Hydraulics and Seals
Identification Code: None. Use title.
Provides an understanding of the principles of hydraulics in relation to the operation of catapults. Provides a basis of understanding various types of packings and seals.
Prepared for: Aviation Boatswain's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 15 minutes

Validation Data:	Number of learners tested	59
	Low score	86
	High score	100
	Percentage who scored 94% or higher	90

Developer: NATTC, NAS, LAKEHURST

Deadweight Gauge Tester
Identification Code: None. Use title.
Covers the purpose, construction, and operation of the deadweight gauge tester.
Prepared for: Aviation Boatswain's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 27 minutes

Validation Data:	Number of learners tested	54
	Low score	90
	High score	100
	Percentage who scored 95% or higher	90

Developer: NATTC, NAS, LAKEHURST

Launching Signals and Crew Organization
Identification Code: None. Use title.
Provides an understanding regarding standard signals used aboard ship for launching operations. Provides a basis for understanding the number of personnel required and the recommended rate for various control stations.
Prepared for: AB A School students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	63
	Low score	80
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, LAKEHURST

CATAPULTS AND ARRESTING GEAR

Introduction to Steam Catapults
Identification Code: None. Use title.
A general description of the component parts that make up a steam catapult. A brief description of how the steam catapult operates.
Prepared for: Aviation Boatswain's Mate Class A/C Schools, students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	68
	Low score	90
	High score	100
	Percentage who scored 90% or higher	100

Developer: NATTC, NAS, LAKEHURST

CHEMISTRY

Methods of Expressing the Concentrations of Solutions, Part I
Identification Code: None. Use title.
Describes the ways to increase or decrease the concentrations of solutions and how to determine their molarity when given the weight of the solute in grams, the chemical formula of the solute, and the volume of the solution.
Prepared for: Class A School, Propulsion Engineering, students
Type of Program: Linear-Discrimination
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	71
	Low score	59.5
	High score	100
	Percentage who scored 90% or higher	90

Developer: BUPERS (PERS-C21)

CIC PROCEDURES

Display Methods in Anti-Air Warfare (A CONFIDENTIAL Program)
Identification Code: FAAWTC SDiego PI-06
Procedures for converting latitude/longitude to GEOREF, Polar Coordinates to GEOREF or to Cartesian Coordinates. Also covers determination of altitude, geometrical shape and dimensions of any area delineated in a GEOREF.
Prepared for: CIC Watch Officer students
Type of Program: Linear-Text
Average Time Required: 1 hour

Validation Data:	Number of learners tested	222
	Low score	78
	High score	100
	Percentage who scored 90% or higher	82

Developer: FAAWTC, SAN DIEGO

Three Minute Rule
Identification Code: FAAWTC SDiego PI-3
Program teaches student to solve speed, distance and time problems using the Three Minute Rule.
Prepared for: CIC Team Training and Basic CIC Techniques (Enlisted)
Type of Program: Linear-Text
Average Time Required: 24 minutes

Validation Data:	Number of learners tested	107
	Low score	20
	High score	100
	Percentage who scored 90% or higher	70

Developer: FAAWTC, SAN DIEGO

COMMUNICATIONS

Air Intercept Control Communications (A CONFIDENTIAL Program)
Identification Code: FAAWTC PI-012
Radio communication procedures and standard messages between air intercept controllers and interceptor pilots.
Prepared for: Naval officer and enlisted air intercept control students
Type of Program: Linear-Loop
Average Time Required: 1 hour and 4 minutes

Validation Data:	Number of learners tested	43
	Low score	74
	High score	100
	Percentage who scored 90% or higher	70

Developer: FAAWTC, SAN DIEGO

AN Nomenclature System, Advanced Developments
Identification Code: CNABT-P-629X PAT
AN nomenclature system, the language that members of the Navy use to identify electronic equipment.
Prepared for: Basic Naval Aviation Officers School students
Type of Program: Linear
Average Time Required: 1 hour
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Calibration and Tuning the AN/PRC-8, 9, and 10
Identification Code: C-102
Teaches the characteristics of employment, calibration, tuning and technical characteristics of the AN/PRC-8, 9 and 10 radios. Upon satisfactory completion of this program, the student will be able to calibrate and tune the AN/PRC-8, 9 and 10.
Prepared for: Communication students
Type of Program: Linear
Average Time Required: 1 hour
Validation Data: Not available
Statement of objectives are not available from the developer.
Developer: LANFORTRACOMLANT, NAVPHIBASE, LITTLE CREEK

AN/PRC 8, 9, & 10 (Tuning and Calibration)
Identification Code: NAVPHIBSCOL 1-2
The program is divided into two sections. The first is devoted to teaching the students to associate the control with its use. This is accomplished through associating a statement and an illustration with a control, the control being in various positions. Then a 16mm film on calibrating and tuning is shown. The students then individually or in teams calibrate and tune the AN/PRC 8, 9, or 10. Their work is checked by an instructor.
Prepared for: Functional Training, E3 through 04
Type of Program: Linear
Average Time Required: 1 hour
Validation Data: Not available
Developer: NAVPHIBSCOL, NAVPHIBASE, LITTLE CREEK

COMMUNICATIONS

AN/PRC-25
Identification Code: C-103
Program teaches characteristics, component parts, capabilities, limitations, operation and tuning of the AN/PRC-25. Student will learn how to assemble, tune, preset channels, and secure the set.
Prepared for: Marines (Enlisted/Officer)
Type of Program: Linear
Average Time Required: 1 hour and 10 minutes
Validation Data: Not available
Developer: LANFORTRACOMLANT, NAVPHIBASE, LITTLE CREEK

AN/PRC-41
Identification Code: C-104
Teaches characteristics, component parts, capabilities, limitations, operation and training of the PRC-41.
Prepared for: Officer & Enlisted personnel attending amphibious training
Type of Program: Linear
Average Time Required: 1 hour
Validation Data: Not available
Developer: LANFORTRACOMLANT, NAVPHIBASE, LITTLE CREEK

ATP-1, Vol. 2, Signal Book
Identification Code: PRA SD
Training in use of ATP-1 for the decoding and encoding of tactical and administrative signal (Note - Tape programs requiring use of audio note book - 22 channel. Hardware and software not available for loan.)
Prepared for: CIC Watch Officers and team training
Type of Program: Linear with Loop
Average Time Required: 2 hours and 8 minutes

Validation Data:	Number of learners tested	157
	Low score	46
	High score	100
	Percentage who scored 90% or higher	65

Developer: FAAWTC, SAN DIEGO

Call-Sign and Address Group Publications
Identification Code: None. Use title.
Designed for the RM A School curriculum; however, it can be adapted for use in Shipboard Training Programs and Reserve Training Centers. Deals with call-sign/address group publications and covers the definitions of basic terms associated with these publications. The use of publications is also covered; this includes identifying any call-sign or address group with the correct publication and finding its meaning, or associating a plain language designator with the correct publication to find the call-sign or address group.
Prepared for: Class A School/ResTraCen's/OJT students
Type of Program: Linear-Branching
Average Time Required: 40 minutes
Validation Data: Not available
Developer: BUPERS (PERS-C22)

COMMUNICATIONS

Introduction to the DCS
Identification Code: NCTC PI-4
Mission and major functions of the DCA, describes SITREP.
Prepared for: Class "A" O Branch Course students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	72
	Low score	75
	High score	100
	Percentage who scored 96% or higher	95

Developer: NAVCOMMTRACEN, PENSACOLA

The Navy Directive
Identification Code: CNABT-P-600 PAT
Purpose and use of the Navy Directive System. The two types of Navy and Marine Corps directives and the differences in their uses. The seven basic groups of a Navy directive. Indicate the correct and incorrect wordage, punctuation, etc., in sample format groups.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 36 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

The Navy Directives System
Identification Code: CNABT-P-591X PAT
The five sources of naval law. The definition, purpose, and types of the Navy directive System. The parts of a directive and the proper procedure for filing a directive.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 37 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

The Navy Directive System
Identification Code: CNABT-P-628 PAT
What the Navy Directive System is, required and optional exceptions to the system, types of directives and the format of each, numbering of directives and sequence of paragraphs, and how to amend instructions and to cite instructions and notices.
Prepared for: Basic Naval Aviation Officers School students
Type of Program: Linear
Average Time Required: 17 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

COMMUNICATIONS

Introduction to the Principles of Facsimile Communications
Identification Code: NCTC PI-5
States the purpose and use of facsimile communications, brief history of facsimile communications, lists and describes the facsimile reproduction methods as photographic, sensitized paper, and drum-helix-bar, defines synchronization and phasing, and explains their importance to facsimile transmissions.
Prepared for: Class "A" T Branch students
Type of Program: Linear
Average Time Required: 30 minutes

Validation Data:	Number of learners tested	72
	Low score	85
	High score	100
	Percentage who scored 90% or higher	91

Developer: NAVCOMMTRACEN, PENSACOLA

Naval Messages
Identification Code: CNATT-M437 PAT
Teaches the student how to prepare a naval message from a rough draft.
Prepared for: AK A School students
Type of Program: Linear
Average Time Required: 1 hour and 20 minutes

Validation Data:	Number of learners tested	50
	Low score	69.5
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

Naval Message Drafting
Identification Code: NAVPHIBSCOL LCREEK 1-3
Covers addresses, classification, references, procedures, and very briefly the body of the text. It is meant only to give a short overview of message drafting.
Prepared for: NAVPHIBSCOL students, E4 through 03
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	125
	Low score	85
	High score	100
	Percentage who scored 90% or higher	94

Developer: NAVPHIBSCOL, NAVPHIBASE, LITTLE CREEK

Message Drafting
Identification Code: C-101
Correct format and terminology of Naval Messages. Covers message drafting procedures in regard to the drafter, originator, releaser, and classification and format. Upon completing this program satisfactorily, the student will be able to draft a military message correctly.
Prepared for: Communication students
Type of Program: Linear
Average Time Required: 1 hour and 30 minutes
Validation Data: Not available
Statements of objectives are not available from the developer.
Developer: LANFORTRACOMLANT, NAVPHIBASE, LITTLE CREEK

COMMUNICATIONS

Message Reading
Identification Code: CNABT-P-684X PAT
The basic elements of radiotelegraph and teletype messages, such as precedence and date-time group, originator, addressee, and text.
Prepared for: Basic Naval Aviation Officers School students
Type of Program: Linear
Average Time Required: 27 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Introduction to Precedence Prosigns
Identification Code: NCTC PI-1
Defines and lists the four Precedence Prosigns, describes the types of messages assigned to each, handling requirements and normal handling time of messages assigned to each of the four Precedence Prosigns.
Prepared for: Class "A" O Branch students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	98
	Low score	81
	High score	100
	Percentage who scored 97% or higher	95

Developer: NAVCOMMTRACEN, PENSACOLA

Use of the Prosign $\overline{\text{IMI}}$
Identification Code: None. Use title.
Designed for the RM A School curriculum; however, it can be adapted for use in Shipboard Training Programs and Reserve Training Centers. Deals with the use of the repeat prosign $\overline{\text{IMI}}$ both for asking and answering repetition in plain language and encrypted messages.
Prepared for: T/E Class A School students
Type of Program: Linear-Branching
Average Time Required: Time not given
Validation Data: Not available
Developer: BUPERS (PERS-C22)

Radio Beacon Set (AN/TPN-7)
Identification Code: NAVPHIBSCOL L/C 1-6
Covers the set up, operation and certain operator maintenance for the Radio Beacon (AN/TPN-7). The terminal objective of the program calls for the student to set up and operate the Beacon without error.
Prepared for: E-1 through O-4
Type of Program: Linear
Average Time Required: 35 minutes

Validation Data:	Number of learners tested	75
	Low score	0
	High score	100
	Percentage who scored 90% or higher	89

Developer: NAVPHIBSCOL, NAVPHIBASE, LITTLE CREEK

COMPUTER

Data Flow, D-17
Identification Code: CNATT-M470 PAT
Teaches: the decoder circuitry of the control unit of a digital computer; the timing and function control circuitry of the control unit of a digital computer.
Prepared for: Avionics Technician School, Class A, students
Type of Program: Linear
Average Time Required: 55 minutes

Validation Data:		
	Number of learners tested	51
	Low score	60
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, MEMPHIS

Input-Output Devices, D-14
Identification Code: CNATT-M395 PAT
Explains the methods of operating the input-output devices. Describes the purpose and capabilities of buffers. Explains encoder and decoder matrices. Describes various types of input-output devices.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 49 minutes

Validation Data:		
	Number of learners tested	57
	Low score	80
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Memory Devices, D-12
Identification Code: CNATT-M407 PAT
Defines the purpose of memory devices. Defines and provides an understanding of memory system terminology. Teaches the operation of memory devices.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 55 minutes

Validation Data:		
	Number of learners tested	59
	Low score	80
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, MEMPHIS

U Rest Computer
Identification Code: None. Use title.
Consists of a description of the U Rest Computer and how to solve problems with it.
Prepared for: Jet Aviator students
Type of Program: Branching
Average Time Required: 50 minutes
Validation Data: Not available
Statements of objectives are not available from the developer.
Developer: NAS, KINGSVILLE

COMPUTER PROGRAMMING

Binary Numbers Systems
Identification Code: CNABT-P-595X PAT
Cover the ways that binary numbers may be represented in computers and systems for converting numbers from the decimal system to the binary system and back to decimals.
Prepared for: Basic Naval Aviation Officers School students
Type of Program: Linear-Branching
Average Time Required: 20 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Conversion Methods
Identification Code: FAAWTC SDIEGO PI-13
Conversion of octal numbers to decimal equivalent using explosive method; conversion of decimal numbers to octal equivalent using digit-by-digit method; rounding off converted numbers.
Prepared for: Naval officer and enlisted AN/USQ-20 computer programmer students
Type of Program: Linear
Average Time Required: 49 minutes

Validation Data:		
	Number of learners tested	46
	Low score	50
	High score	100
	Percentage who scored 90% or higher	93.4

Developer: FAAWTC, SAN DIEGO

Basic Digital Computer Programming Concepts and Programming and 6B4 Digital Computer Demonstrator
Identification Code: CNABT-P-675X PAT
The material to teach the student to program the 6B4 Digital Computer Demonstrator to solve simple equations.
Prepared for: Basic Naval Aviation Officer School students
Type of Program: Branching
Average Time Required: 36 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Programming: Application, D-16B
Identification Code: CNATT-M498 PAT
Explains the reason for computer flow charts. Provides practice in drawing flow charts. Defines coding. Provides practice in writing a computer program.
Prepared for: Avionics Technician School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 48 minutes

Validation Data:		
	Number of learners tested	65
	Low score	75
	High score	100
	Percentage who scored 90% or higher	97

Developer: NATTC, NAS, MEMPHIS

COMPUTER PROGRAMMING

Programming Fundamentals, D-16A
Identification Code: CNATT-M490 PAT
Teaches the purpose of a computer program. Describes the four basic steps in writing a program. Defines instructional format. Lists the functional characteristics of a hypothetical computer.
Prepared for: Avionics Technician School, Class A, students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:		
	Number of learners tested	66
	Low score	75
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

CORRESPONDENCE

Introduction to Naval Correspondence
Identification Code: CNABT-P-836 PAT
Upon completion of the program, the student should be able to: Define official and official naval correspondence. List the nine basic types of naval correspondence. Define official naval letter, official naval personal letter, endorsement, naval directive, and naval message.
Prepared for: Student Naval Aviators
Type of Program: Branching
Average Time Required: 1 hour and 14 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Downgrading and Declassifying Classified Materials
Identification Code: NAVPHIBSCOL 1-4
Includes statements and charts of intervals to downgrade and/or declassify documents plus categories of information that fall into Groups 1, 2, 3 or 4, in accordance with OPNAVINST 5500.40 Series.
Prepared for: Functional Training, E-3 through O-4
Type of Program: Linear
Average Time Required: 30 minutes

Validation Data:		
	Number of learners tested	200
	Low score	52
	High score	100
	Percentage who scored 90% or higher	93

Developer: NAVPHIBSCOL, NAVPHIBASE, LITTLE CREEK

Filing of Naval Correspondence
Identification Code: CNATT-M438 PAT
Briefly covers the procedures for maintaining a file for and assigning subject identification code numbers to Naval correspondence.
Prepared for: Aviation Storekeeper School Class A School students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:		
	Number of learners tested	51
	Low score	90
	High score	100
	Percentage who scored 90% or higher	100

Developer: NATTC, NAS, MEMPHIS

CORRESPONDENCE

Filing of Correspondence (Marine)
Identification Code: CNATT-M441 PAT
Teaches the student how to file correspondence in accordance with the Navy-Marine Corps Standard Classification System Manual.
Prepared for: MARAOC C Course students
Type of Program: Linear
Average Time Required: 1 hour and 6 minutes

Validation Data:	Number of learners tested:	50
	Low score	88
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

The Format of a Naval Letter, NSCS 421-7
Identification Code: 6ND-NSCS-P49 (REV. 12/66)
Covers the mechanics of a naval letter. It deals primarily with the format of a naval letter.
Prepared for: NSCS Officer students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 30 minutes
Validation Data: Not available
Statements of objectives are not available from the developer.
Developer: NAVSCSCOL, ATHENS

The Official Naval Letter
Identification Code: CNABT-P-598 PAT
The seven basic groups of the official naval letter format with component lines of the respective groups. Specific information about classified official naval letter formats and specific information about the component parts of the seven basic groups.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 31 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

The Official Naval Personal Letter and Endorsements
Identification Code: CNABT-P-834 PAT
Types of official naval personal letters and endorsements with related topics such as basic groups of naval personal letter and component parts of each group. Stresses the difference between same and separate page endorsements.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 55 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

The Naval Speedletter
Identification Code: CNATT-M440 PAT
Covers the purpose, proper format and usage of the naval speedletter.
Prepared for: Aviation Storekeeper School Class A students
Type of Program: Linear
Average Time Required: 1 hour and 9 minutes

Validation Data:	Number of learners tested:	51
	Low score	79.5
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, MEMPHIS

CORRESPONDENCE

Types of Naval Correspondence
Identification Code: CNATT-M439 PAT
Introduces the student to the different types of correspondence used by the Navy.
Prepared for: AK A School students
Types of Program: Adjunct
Average Time Required: 35 minutes

Validation Data:	Number of learners tested	50
	Low score	70
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

CORROSION CONTROL

Aircraft Cleaning
Identification Code: CNATT-N-635 PAT
Describes the four main reasons for cleaning aircraft and gives an understanding of proper cleaning materials and methods of aircraft cleaning.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 20 minutes

Validation Data:	Number of learners tested	65
	Low score	82
	High score	100
	Percentage who scored 90% or higher	92

Developer: NAMTRAGRU, MEMPHIS

Aircraft Corrosion and Preservation
Identification Code: CNATT-M530 PAT
Teaches recognition of the different types of corrosion and the preservation methods used for installed and uninstalled aircraft engines.
Prepared for: ADJ Class A School students
Type of Program: Linear
Average Time Required: 59 minutes

Validation Data:	Number of learners tested	50
	Low score	60.4
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Aircraft Corrosion Prone Areas
Identification Code: N561
Contains information concerning areas of aircraft which are susceptible to corrosion. The causes of the corrosion is discussed along with the preventative measures required to combat the corrosion.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 25 minutes

Validation Data:	Number of learners tested	51
	Low score	87
	High score	100
	Percentage who scored 90% or higher	95

Developer: NAMTRAGRU, NAS, MEMPHIS

CORROSION CONTROL

Avionics Corrosion Fundamentals, CC-1
Identification Code: CNATT-M494 PAT
Teaches the two basic types of corrosion. Teaches recognition of possible corrosion occurrences. Teaches the importance of immediate action in reporting instances of corrosion of suspected corrosion.
Prepared for: Avionics Technician School, Class A, students
Type of Program: Linear
Average Time Required: 31 minutes

Validation Data:	Number of learners tested	77
	Low score	90
	High score	100
	Percentage who scored 90% or higher	100

Developer: NATTC, NAS, MEMPHIS

Chemical Treatment of Metals
Identification Code: CNATT-N-726
Covers chemical treatment of metals on operating aircraft. The program will acquaint you with the chemicals used in the field treatment of metals and the safety precautions to observe.
Prepared for: NAMTRADETS, Class C School, students
Type of Program: Linear
Average Time Required: 30 minutes

Validation Data:	Number of learners tested	61
	Low score	88
	High score	100
	Percentage who scored 90% or higher	98

Developer: NAMTRAGRU, NAS, MEMPHIS

Introduction to Corrosion Control
Identification Code: CNATT-N104 PAT (Revised)
The general classifications of corrosion, the causes of chemical and electrochemical corrosion, how to prevent corrosion, and other basic factors which affect corrosion. An explanation of the processes of electroplating, anodizing, and the chemical cell is given in order to develop a clearer understanding of electrochemical corrosion.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 55 minutes

Validation Data:	Number of learners tested	50
	Low score	62.5
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

Corrosion Control Aviation Maintenance Support Equipment
Identification Code: CNATT-M533 PAT
Covers recognition, causes, and treatment of different types of corrosion related to aviation maintenance support equipment.
Prepared for: AS Class A School students
Type of Program: Linear
Average Time Required: 1 hour and 8 minutes

Validation Data:	Number of learners tested	50
	Low score	92
	High score	100
	Percentage who scored 90% or higher	100

Developer: NATTC, NAS, MEMPHIS

CORROSION CONTROL

Operating Aircraft Preservation
Identification Code: N533
Covers the various types of preservatives that are used to protect operating aircraft from corrosion, and the various locations on the aircraft where these preservatives are applied.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 20 minutes

Validation Data:	Number of learners	43
	Low score	80
	High score	100
	Percentage who scored 90% or higher	95

Developer: NAMTRAGRU, NAS, MEMPHIS

Preservation of Aircraft
Identification Code: CNATT-P-5293 PAT
Reasons for preservation, types of preservation, and conditions that determine types to be used. Difference between types and factors that govern application. Safety precautions.
Prepared for: AMS(A), AMH(A), AME(A) School students
Type of Program: Linear
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	75
	Low score	56.6
	High score	100
	Percentage who scored 90% or higher	90.7

Developer: NATTC, NAS, MEMPHIS

DAMAGE CONTROL

Class "A" Fire Fighting
Identification Code: COMTRALANT 403-2 Vol. 1
Discusses procedures for reporting a fire and extinguishing Class "A" fires. Describes and explains how to use equipment and materials used in extinguishing Class "A" fires. Briefly discusses the P-250 pump.
Prepared for: Ship's Crew
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	47
	Low score	87
	High score	100
	Percentage who scored 90% or higher	93.6

Developer: TRALANT

Foreign Object Damage
Identification Code: CNATT-M468 PAT
Teaches the different classifications of foreign object damage, the engine instruments that would indicate foreign object damage and how to prevent F. O. D.
Prepared for: ADJ "A" School students
Type of Program: Linear
Average Time Required: 31 minutes

Validation Data:	Number of learners tested	50
	Low score	87.6
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, MEMPHIS

Oxygen Breathing Apparatus
Identification Code: F-000-010-005
Designed to introduce the trainee at Basic Enlisted Submarine School to the: type of OBA used on board submarines, uses of an Oxygen Breathing Apparatus, operating principles of an OBA, safety precautions related to the OBA and OBA canister, proper care and stowage.
Prepared for: Basic Enlisted Submarine School Class "A" students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	41
	Low score	85
	High score	100
	Percentage who scored 90% or higher	95.1

Developer: NAVSUBSCOL, NAVSUBASE, GROTON

DEMOLITIONS

Demolition Charges
Identification Code: NAVPHIBSCOL L/C 2-4
Presents the basic demolition charges and explains their uses. Illustrations throughout the program enable the students to identify the charges by sight.
Prepared for: UDT students, E-1 through O-3
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	73
	Low score	0
	High score	100
	Percentage who scored 90% or higher	88

Developer: NAVPHIBSCOL, NAVPHIBASE, LITTLE CREEK

ELECTRICITY

Wye-Connected A.C. Generator
Identification Code: None. Use title.
Teaches the definition of a wye-connected a.c. generator. Teaches the formulas for the relationships of phase current, line current, phase voltage, and line voltage. Trainee learns to solve for line voltage, phase voltage, true power, and apparent power of a wye-connected a.c. generator. The trainee is also taught the proper procedure for connecting an a.c. generator in wye.
Prepared for: AE Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 1 hour and 47 minutes

Validation Data:	Number of learners tested	75
	Low score	80
	High score	100
	Percentage who scored 90% or higher	94.67

Developer: NATTC, NAS, JACKSONVILLE

A.C. Theory: Related Mathematics and the Generation of a Sine Wave
Identification Code: CNATT-J75 PAT
Angles and sides of a right triangle, and the use of the Pythagorean Theorem to solve for the unknown side of right triangles as a basis for solving problems involving alternating current. Use of vectors to express forces acting at some angle in relation to each other, and how these vectors may be represented by a right triangle. Trigonometric functions--sine, cosine, and tangent--are used to solve for unknown angles or vector quantities, and how a vector representing a rotating conductor in a generator field may be used to show the generation of a sine wave of voltage.
Prepared for: Class A School students
Types of Program: Linear-Adjunct
Average Time Required: 3 hours and 30 minutes

Validation Data:	Number of learners tested	128
	Low score	67
	High score	100
	Percentage who scored 90% or higher	90.63

Developer: NATTC, NAS, JACKSONVILLE

A.C. Theory: Sine-Wave Analysis and Combining of Voltages
Identification Code: CNATT-J74 PAT
Terms used to identify various quantities of a.c. voltage and current, and how these terms are applied to a sine wave. Solution for E_{avg}, E_{max}, E_{eff}, E_{pp}, and e. Combination of two sine waves of voltage, displaced by a given number of degrees, into a resultant waveform; and to add vectorially, two voltages displaced from each other by a given number of degrees.
Prepared for: Class A School students
Type of Program: Linear
Average Time Required: 2 hours and 25 minutes

Validation Data:	Number of learners tested	53
	Low score	67
	High score	100
	Percentage who scored 90% or higher	90.6

Developer: NATTC, NAS, JACKSONVILLE

ELECTRICITY

Aircraft Electrical Conductors and Connectors
Identification Code: CNATT-J17 PAT
Provides an understanding of the purpose of conductors and connectors, what they are made of, and how they are used. Covers mil measurement and how to use it.
Prepared for: Class A School students
Type of Program: Linear-Branching-Adjunct
Average Time Required: 1 hour and 50 minutes
Validation Data:

Number of learners tested	76
Low score	78
High score	100
Percentage who scored 90% or higher	94.5

Developer: NATTC, NAS, JACKSONVILLE

Aircraft Electrical Control and Protection Devices
Identification Code: CNATT-J87 PAT
Switches, relays, fuses, current limiters, and circuit breakers; also symbols for these devices.
Prepared for: Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 1 hour
Validation Data:

Number of learners tested	79
Low score	79
High score	100
Percentage who scored 90% or higher	93.67

Developer: NATTC, NAS, JACKSONVILLE

Aircraft Electrical Switches
Identification Code: None. Use title.
Teaches the definition, construction, operation and types of aircraft electrical switches. Also teaches the symbols used for switches in schematic and wiring diagrams.
Prepared for: AE Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 38 minutes
Validation Data:

Number of learners tested	76
Low score	75
High score	100
Percentage who scored 90% or higher	96.03

Developer: NATTC, NAS, JACKSONVILLE

Atomic Structure and Static Electricity
Identification Code: CNATT-P-4948 (Rev. 5-66) PAT
Definition and composition of matter. Atomic structure and definition of static electricity. Hazard of static electricity as applied to aviation.
Prepared for: AMFU A School students
Type of Program: Linear
Average Time Required: 1 hour and 56 minutes
Validation Data:

Number of learners tested	52
Low score	65.2
High score	100
Percentage who scored 90% or higher	91

Developer: NATTC, NAS, MEMPHIS

ELECTRICITY

Distribution Transformer Polarity
Identification Code: 008/598
Identifying and testing of Distribution Transformer polarity.
Prepared for: Students Construction Electrician School
Type of Program: Linear
Average Time Required: 25 minutes

Validation Data:	Number of learners tested	64
	Low score	88
	High score	100
	Percentage who scored 90% or higher	98

Developer: NAVSCOLCONST, CBC, PORT HUENEME

ELECTRICITY

Dynamic Electricity and Ohm's Law
Identification Code: CNATT-J86 PAT
Basic concepts of electricity in motion and problem solving by use of Ohm's Law.
Prepared for: Class A School students
Type of Program: Linear-Branching-Adjunct
Average Time Required: 1 hour and 50 minutes

Validation Data:	Number of learners tested	69
	Low score	83
	High score	100
	Percentage who scored 90% or higher	97.10

Developer: NATTC, NAS, JACKSONVILLE

Dynamic Electricity, Ohm's Law and the Rheostat
Identification Code: CNATT-P-4982 (Rev. 11-65) PAT
Definition of EMF, resistance, and current flow. Measuring instruments, and Ohm's Law with mathematical application.
Prepared for: AMFU A School students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 58 minutes

Validation Data:	Number of learners tested	52
	Low score	47
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Electrical Calculations - Work, Power and Energy (Electrical)
Identification Code: CNATT-J71 PAT
Provides instruction on electrical power, the unit of measurement, and the relationship of watts to horsepower.
Prepared for: Class A School students
Type of Program: Branching
Average Time Required: 1 hour and 15 minutes

Validation Data:	Number of learners tested	78
	Low score	80
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, JACKSONVILLE

F-4B Electrical Instruments and Lighting System Familiarization
Identification Code: CNATT-N420
Covers the engine instruments located on the pilot's main instrument panel, the center pedestal, and the left console. It covers the location of fuel quantity indicator, the fuel quantity feed tank check switches, and the location of the exterior lights control panel.
Prepared for: NAMTRADETS, Class C, students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	82
	Low score	74
	High score	100
	Percentage who scored 90% or higher	94.6

Developer: NAMTRAGRU, NAS, MEMPHIS

ELECTRICITY

Elements of Electrical Physics, Ohm's Law, Part II, Lesson 1-2-5
Identification Code: CNATT-P-5134 PAT
Extends the theory of Ohm's Law to parallel and series-parallel circuits involving resistance, voltage, current, and power calculations.
Prepared for: GCA Maintenance (Engineman) Course, Class C, students
Type of Program: Linear
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	23
	Low score	78.8
	High score	100
	Percentage who scored 88.9% or higher	91

Developer: NATTC, NAS, GLYNCO

Introduction to Electrical Symbols
Identification Code: CNATT-P-5277 PAT
Identity of the basic electrical symbols used in the diagrams of aircraft electrical systems. The difference between an electrical schematic diagram and an electrical wiring diagram.
Prepared for: AMFU A School students
Type of Program: Linear-Adjunct
Average Time Required: 30 minutes

Validation Data:	Number of learners tested	53
	Low score	80
	High score	100
	Percentage who scored 90% or higher	(Not given)

Developer: NATTC, NAS, MEMPHIS

Conversion of Electrical Units
Identification Code: 016/543A
Changing large and small numbers into simple forms as used in electrical formulas.
Prepared for: Students Construction Electrician School
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	64
	Low score	68
	High score	100
	Percentage who scored 90% or higher	94

Developer: NAVSCOLCONST, CBC, PORT HUENEME

Introduction to Electricity
Identification Code: NCTC PI-28
Defines atoms, free electronics, positive and negative charges, etc. States the law of electricity, applications of OHM's Law.
Prepared for: Class A, T Branch, students
Type of Program: Linear
Average Time Required: 2 hours

Validation Data:	Number of learners tested	81
	Low score	78.4
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAVCOMMTRACEN, PENSACOLA

ELECTRICITY

Electricity - Electromagnetism
Identification Code: CNATT-P-5092 PAT
The definition of electromagnetism and electromagnets. Gives an understanding of the current flow and lines of force. Lists ways that solenoids differ from relays.
Prepared for: AMFU A School students
Type of Program: Linear
Average Time Required: 2 hours and 17 minutes

Validation Data:	Number of learners tested	53
	Low score	70
	High score	100
	Percentage	90

Developer: NATTC, NAS, MEMPHIS

Electricity - Electromagnetic Induction
Identification Code: CNATT-P-5081 PAT
The factors which induce and affect the strength of EMF. Understanding of the left-hand generator rule, using illustration to indicate current flow and direction of motion.
Prepared for: AMFU A School students
Type of Program: Linear
Average Time Required: 57 minutes

Validation Data:	Number of learners tested	50
	Low score	88
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

Electricity - Magnetism
Identification Code: CNATT-P-5094
Definition of magnetism, the laws of polarity, and classification of magnetic and nonmagnetic metal. Methods of demagnetizing. An understanding of retentivity, reluctance, and transparency.
Prepared for: AMFU A School students
Type of Program: Linear
Average Time Required: 58 minutes

Validation Data:	Number of learners tested	60
	Low score	83.5
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Electricity and Electronics, Current, Voltage, and Resistance
Identification Code: CNABT-P-658X PAT
The action of current, electromotive force, and resistance using the electrical terms of amperage, voltage, and ohmage.
Prepared for: Basic Naval Aviation Officers School students
Type of Program: Linear
Average Time Required: 31 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

ELECTRICITY

Electricity and Electronics, the Six Sources of Electricity
Identification Code: CNABT-P-711X PAT
The six methods of producing electricity from the primary energy sources, capabilities and limitations of each primary energy source, and the practical applications for the electricity produced from each source.
Prepared for: Naval Flight Officer students
Type of Program: Linear
Average Time Required: 31 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Electromagnetic Spectrum
Identification Code: CNABT-P-717X PAT
Definitions of the electromagnetic spectrum, electromagnetic radiations, and transverse waves. The velocity formula. The use of radio waves and their propagation.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 13 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Generators
Identification Code: CNATT-J35 PAT
Defines and lists the three requirements to induce EMF by electromagnetic induction. Lists three factors governing the amount of EMF induced in a conductor. Completes statements concerning the left-hand rule for generators. Defines a generator. Lists two methods of collecting EMF from a generator.
Prepared for: Class A and B Ordnance Schools students
Type of Program: Linear
Average Time Required: 1 hour and 55 minutes

Validation Data:	Number of learners tested	83
	Low score	76
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, JACKSONVILLE

Impedance In Parallel
Identification Code: None. Use title.
Definition of impedance. Solving RC, RL, and RCL parallel circuits for total impedance and power factor using the Pythagoream Theorem and assumed voltage methods.
Prepared for: AE Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 3 hours and 15 minutes

Validation Data:	Number of learners tested	68
	Low score	85
	High score	100
	Percentage who scored 90% or higher	91.18

Developer: NATTC, NAS, JACKSONVILLE

ELECTRICITY

Lamps, Light Assemblies, and Resistors

Identification Code: CNATT-J16 PAT

Provides an understanding of lamps, how they are used, what their parts are, and how they are designated. Covers some purposes of resistors and resistor color coding.

Prepared for: Class A School students
Type of Program: Linear-Branching-Adjunct
Average Time Required: 55 minutes
Validation Data:

Number of learners tested	80
Low score	82
High score	100
Percentage who scored 90% or higher	91.25

Developer: NATTC, NAS, JACKSONVILLE

Magnetism and Electromagnetism

Identification Code: CNATT-G16 PAT

Presents a basic introduction to magnetism by discussing the terms used and the properties of different types of magnets. Discusses magnetic fields produced around conductors and coils. Discusses electromagnets, how they are made, and their advantages over other types of magnets.

Prepared for: Class A School students or for review
Type of Program: Linear
Average Time Required: 1 hour and 15 minutes
Validation Data:

Number of learners tested	54
Low score	80
High score	100
Percentage who scored 90% or higher	88.7

Developer: NATTC, NAS, GLYNCO

Fundamental Concepts of Ohm's Law

Identification Code: 007/544A

Presents the relationship between voltage, resistance and amperes.

Prepared for: Students Construction Electrician School
Type of Program: Linear
Average Time Required: 45 minutes
Validation Data:

Number of learners tested	68
Low score	72
High score	100
Percentage who scored 90% or higher	90

Developer: NAVSCOLCONST, CBC, PORT HUENEME

The Oscilloscope

Identification Code: None. Use title.

Identifies the purpose, controls, and applications of the oscilloscope. Teaches basic parts of a cathode-ray tube and wave form development.

Prepared for: AE Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 1 hour and 40 minutes
Validation Data:

Number of learners tested	61
Low score	81
High score	100
Percentage who scored 90% or higher	91.8

Developer: NATTC, NAS, JACKSONVILLE

ELECTRONICS

Alternating Current and Voltage Characteristics, P-VIII-2
Identification Code: CNATT-P-5030 PAT
Covers the relationship of a-c values of alternating current or voltage; conversion of a-c values of instantaneous value, maximum or peak value, peak-to-peak value, effective or rms value, and average value; identification of a-c waveforms.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 58 minutes

Validation Data:	Number of learners tested	60
	Low score	50
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Alternators, IB-IX-2
Identification Code: CNATT-M125 PAT
Theory of a basic alternator and how an a-c output voltage is developed. Relationship between cycle, angular velocity, and frequency.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 55 minutes

Validation Data:	Number of learners tested	53
	Low score	80
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, MEMPHIS

Ammeters, P-V-2R
Identification Code: CNATT-M251 PAT
Teaches: the fundamental theory of operation of the basic ammeter; how to calculate the value of shunt resistors using Ohm's Law or ratio and proportion; safety precautions.

Prepared for: Avionics Technician School, Class A, students
Type of Program: Linear
Average Time Required: 49 minutes

Validation Data:	Number of learners tested	51
	Low score	75
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, MEMPHIS

Ammeters and Voltmeters, IB-V-2
Identification Code: CNATT-M389 PAT
Describes basic ammeter and voltmeter configuration. Teaches methods of computing range extension resistances for ammeters and voltmeters. Teaches methods of computing the shunting effect of voltmeters. Teaches personnel and equipment safety precautions.
Prepared for: Avionics Intermediate Course, Class B. students
Type of Program: Linear
Average Time Required: 1 hour and 42 minutes

Validation Data:	Number of learners tested	86
	Low score	89
	High score	100
	Percentage who scored 90% or higher	97

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Angles, IB-VI-1

Identification Code: CNATT-M270 PAT

Characteristics of angles and angle generation. Conversion of degrees to radians and radians to degrees. Solution of right triangles using the Pythagorean Theorem.

Prepared for: Avionics Intermediate Course, Class B, students

Type of Program: Linear

Average Time Required: 1 hour and 4 minutes

Validation Data:	Number of learners tested	52
	Low score	87
	High score	100
	Percentage who scored 90% or higher	98

Developer: NATTC, NAS, MEMPHIS

Audio Power Amplifiers

Identification Code: NAVPERS 93600-7

The purposes and uses of audio power amplifiers. The characteristics of a beam power tube, a push-pull power amplifier, and impedance matching.

Prepared for: STG Class A-1 School students

Type of Program: Linear

Average Time Required: 1 hour

Validation Data:	Number of learners tested	76
	Low score	65
	High score	100
	Percentage who scored 90% or higher	89

Developer: BUPERS (PERS-C13)

Beam Power Tubes, VT-10

Identification Code: CNATT-P-M47 PAT

Covers: The construction and operation of beam power tubes; practical applications of beam power tubes.

Prepared for: Avionics Fundamentals School, Class A, students

Type of Program: Linear

Average Time Required: 42 minutes

Validation Data:	Number of learners tested	53
	Low score	38
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Bias, VT-12

Identification Code: CNATT-P-5299 PAT

Covers the methods of obtaining bias and how bias affects amplifier operating characteristics. Shows how amplifiers are classified.

Prepared for: Avionics Fundamentals School, Class A, students

Type of Program: Linear

Average Time Required: 1 hour and 20 minutes

Validation Data:	Number of learners tested	52
	Low score	75
	High score	100
	Percentage who scored 90% or higher	91.9

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Binary Arithmetic, D-4
Identification Code: CNATT-M382 PAT
Teaches the fundamentals of binary arithmetic. Teaches the method used by a computer in addition. Teaches the method of complementing decimal and/or binary numbers. Teaches subtraction by the complement method.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 2 hours

Validation Data:	Number of learners tested	47
	Low score	60
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Bistable Multivibrators, D-8
Identification Code: CNATT-M368 PAT
Teaches the theory of operation of the following circuits: set-clear multivibrators; collector-triggered multivibrator; base-triggered multivibrator; complementary multivibrator; base-triggered complementary multivibrator. Explains the Ferrite Core device as used in the design of bistable circuits.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	55
	Low score	55
	High score	100
	Percentage who scored 90% or higher	9

Developer: NATTC, NAS, MEMPHIS

Boolean Application, D-6E
Identification Code: CNATT-M428 PAT
Teaches: simplifying switching circuits with Boolean algebra; writing Boolean expressions which represent switching circuits; extracting Boolean expressions from truth tables; drawing logic diagrams from truth tables.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 2 minutes

Validation Data:	Number of learners tested	52
	Low score	80
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, MEMPHIS

Basic Concepts of Boolean Algebra: Conversion, D-6B
Identification Code: CNATT-M190 PAT
Teaches conversion of logic diagrams to Boolean expressions and conversion of Boolean expressions to logic diagrams.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 2 hours

Validation Data:	Number of learners tested	57
	Low score	88
	High score	100
	Percentage who scored 90% or higher	98

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Basic Laws of Boolean Algebra, D-6C
Identification Code: CNATT-M426 PAT
Teaches simplification of Boolean expressions using the basic laws of Boolean algebra.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 2 hours and 15 minutes

Validation Data:	Number of learners tested	52
	Low score	50
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Basic Operations of Boolean Algebra, D-6A
Identification Code: CNATT-M160 PAT
Teaches construction of truth tables. Teaches the function of Boolean algebra. Teaches the symbols used in logic diagrams.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 52 minutes

Validation Data:	Number of learners tested	58
	Low score	83
	High score	100
	Percentage who scored 90% or higher	97

Developer: NATTC, NAS, MEMPHIS

Boolean Simplification: Veitch Diagrams, D-6D
Identification Code: CNATT-M427 PAT
Teaches: converting Boolean expressions to minterm form; plotting Boolean expressions on Veitch diagrams; simplifying Boolean expressions by using Veitch diagrams.
Prepared for: Aviation Fire Control Technician School, Class A, students
Typed of Program: Linear
Average Time Required: 2 hours and 53 minutes

Validation Data:	Number of learners tested	51
	Low score	80
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Navy Calibration Program, TE-2
Identification Code: CNATT-M410 PAT
Describes Navy Calibration Activities and their functions. Describes Navy calibration and service labels and tags. Shows traceability of calibration standards from fleet activities to the National Bureau of Standards.
Prepared for: Avionics Technician School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 12 minutes

Validation Data:	Number of learners tested	52
	Low score	60
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Capacitance, P-VIII-4
Identification Code: CNATT-P-5166
Covers the construction of typical capacitors, characteristics of typical capailitors, and computation of total capacitors in series and in parallel.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 40 minutes

Validation Data:	Number of learners tested	69
	Low score	65
	High score	100
	Percentage who scored 90% or higher	92.6

Developer: NATTC, NAS, MEMPHIS

Capacitance and RC Time, IB-IV-3
Identification Code: CNATT-M387 PAT
Teaches the basic types of capacitors. Teaches basic RC time. Teaches the fundamental concepts of RC circuits. Teaches the mathematics used to find the value of various unknown quantities in simple RC parallel and series circuits.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 2 hours and 55 minutes

Validation Data:	Number of learners tested	59
	Low score	77
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, MEMPHIS

Capacitive Reactance, P-VIII-5
Identification Code: CNATT-P-5124
Covers the: effects of capacitive reactance in series a-c circuits; calculation of capacitive reactance in series a-c circuits.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 29 minutes

Validation Data:	Number of learners tested	50
	Low score	80
	High score	100
	Percentage who scored 90% or higher	98

Developer: NATTC, NAS, MEMPHIS

Electrical Characteristics of Conductors, IB-II-2
Identification Code: CNATT-M400-PAT
Describes the effect of length, diameter, resistivity, and temperature on the resistance of a conductor. Explains Circular Mil Area (CMAO.) Provides drill problems on factors affecting resistance.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 2 hours and 45 minutes

Validation Data:	Number of learners tested	55
	Low score	56
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Conductors, Resistors, Insulators, P-I-5
Identification Code: CNATT-P-4831
Covers the definition and characteristics of: Electrical conductors; Electrical resistors and how they are classified; Insulators and insulation breakdown.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Branching
Average Time Required: 1 hour

Validation Data:	Number of learners tested	77
	Low score	81
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Comparators, D-13
Identification Code: CNATT-M367 PAT
Define the term comparator and the three major uses of comparators. Provides a brief explanation of computer word length, the normal method of expressing megative numbers in computers, and the two methods of comparing numbers. Explains the basic operation of the quality and inequality comparator circuits.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 31 minutes

Validation Data:	Number of learners tested	51
	Low score	80
	High score	100
	Percentage who scored 90% or higher	92.2

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Introduction to Computers, D-1
Identification Code: CNATT-M353 PAT
Teaches the fundamentals of computer theory. Provides a knowledge of computer capabilities, operations and uses. Provides a comparison of digital and analog computers.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	118
	Low score	66.6
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, MEMPHIS

Counters, Registers and Timing Circuits, D-9
Identification Code: CNATT-M384 PAT
Teaches the theory of operation of the following circuits: series up-counter; parallel up-counter; parallel down-counter; the RACE program, as it applies to counters; decade counter; ring counter; counter decoder. Explains Registers and Timing Circuits as used in the digital computer.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 32 minutes

Validation Data:	Number of learners tested	52
	Low score	87
	High score	100
	Percentage who scored 90% or higher	98

Developer: NATTC, NAS, MEMPHIS

D'Arsonval Meter Movement, IB-V-1
Identification Code: CNATT-M355 PAT
Description of the major components of the D'Arsonval meter movement, and their functions. Discussion of the electromagnetic principles involved in the D'Arsonval meter movement. Discussion of D'Arsonval meter movement characteristics and safety precautions.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 51 minutes

Validation Data:	Number of learners tested	61
	Low score	73.3
	High score	100
	Percentage who scored 90% or higher	91.9

Developer: NATTC, NAS, MEMPHIS

D-C Generators, IB-IV-1A
Identification Code: CNATT-M350 PAT
The basic physical construction of the d-c generator. The fundamental theory of converting mechanical energy into electrical energy by the d-c generator and the losses encountered in the operation of the d-c generator.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	57
	Low score	76
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

D. C. Meters: Meter Movements and Scales, P-V-1R
Identification Code: CNATT-M325 (Rev. 3-70) PAT
Teaches the: six major parts of the D'Arsonval meter movement and the function of each part; relationship of the current and deflection force in a meter movement; three different types of scales used in different types of meters.
Prepared for: Avionics Technician School, Class A, students
Type of Program: Linear
Average Time Required: 54 minutes

Validation Data:	Number of learners tested	59
	Low score	63
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

D. C. Meters: Ohmmeters, P-V-4R
Identification Code: CNATT-M309 (Rev. 1-70) PAT
Defines the ohmmeter and the primary purpose of the basic series and shunt type ohmmeters. Teaches the purpose of the internal components and the proper procedure for zero-adjusting the series ohmmeter. Teaches the computation of the value of resistance required to zero-adjust an ohmmeter and the computation of the value of an unknown resistance being measured with a series ohmmeter. Teaches the safety precautions to be observed when using an ohmmeter.
Prepared for: Avionics Technician School, Class A, students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	51
	Low score	60
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

D. C. Meters: Voltmeters, P-V-3R
Identification Code: CNATT-M481 PAT
Defines the voltmeter and the function of the internal components. Teaches the computation of values of multiplier resistors in voltmeters. Teaches the computation of meter sensitivity in ohms-per-volt. Teaches leading procedures and safety precautions to be observed when using a voltmeter.
Prepared for: Avionics Technician School, Class A, students
Type of Program: Linear
Average Time Required: 2 hours and 2 minutes

Validation Data:	Number of learners tested	52
	Low score	59
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

DC and AC Motors
Identification Code: CNABT-P-624X PAT
Current-carrying conductors, Lenz's Law, types of DC motors, and rotating magnetic field.
Prepared for: Basic Naval Aviation Officers School students
Type of Program: Branching
Average Time Required: 1 hour
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

ELECTRONICS

Identification of Electronic Equipment
Identification Code: RM A Scol (Attn: Program Section)
Designed to teach the Radioman Class "A" student to identify electronic equipment under the two systems used (Navy model system, Joint Electronic Type Designation System) as to its installation design, where installed, purpose.
Prepared for: RM Class A School students
Type of Program: Linear-Branching
Average Time Required: 52 minutes

Validation Data:	Number of learners tested	65
	Low score	90
	High score	100
	Percentage who scored 90% or higher	100

Developer: NTC, BAINBRIDGE

ELECTRONICS

Magnetic Theory, X-1

Identification Code: CNATT-M154 PAT

Basic principles of magnetism; description of the magnetic field of the earth, its magnitude and distortion; existence, magnetic plane, and the direction of the magnetic field of a submarine. Basically how magnetic anomaly detection equipment operates.

Prepared for: Aviation Anti-Submarine Warfare Technicians School, Class A, students

Type of Program: Linear

Average Time Required: 50 minutes

Validation Data:	Number of learners tested	61
	Low score	75
	High score	100
	Percentage who scored 90% or higher	93.5

Developer: NATTC, NAS MEMPHIS

Magnetic Theory--Magnetism, P-IV-2R

Identification Code: CNATT-M514

Teaches the effects of the magnetic field produced by current flow through a conductor. Teaches the effect on flux density of a change in core permeability. Teaches various devices that utilize either the solenoid or the electromagnet in their operation.

Prepared for: Avionics Technician School, Class A, students

Average Time Required: 41 minutes

Validation Data:	Number of learners tested	59
	Low score	73
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Non-Linear Magnetics, IB-MA-2

Identification Code: CNATT-M327 PAT

Volt-second concept with the relationship of voltage to flux in a linear transformer. Non-linear magnetic theory with application of the volt-second-area concept with the relationship of voltage to flux in a base saturable transformer.

Prepared for: Avionics Intermediate Course, Class B, students

Type of Program: Linear

Average Time Required: 1 hour and 20 minutes

Validation Data:	Number of learners tested	55
	Low score	82
	High score	100
	Percentage who scored 90% or higher	98

Developer: NATTC, NAS, MEMPHIS

Magnetism, P-IV-1

Identification Code: CNATT-P-4986

Covers: The sources of magnetism; basic domain molecular theory, the laws of polarity, and characteristics of magnetic fields; and the definitions of permeability, reluctance, residual magnetism, and retentivity.

Prepared for: Avionics Fundamentals School, Class A, students

Type of Program: Linear

Average Time Required: 1 hour and 5 minutes

Validation Data:	Number of learners tested	69
	Low score	79
	High score	100
	Percentage who scored 90% or higher	89.4

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Magnetism, IB-III-1
Identification Code: CNATT-M271 PAT
Basic properties of magnetic materials. Terms and definitions associated with magnetism.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 1 hour and 3 minutes

Validation Data:	Number of learners tested	55
	Low score	75
	High score	100
	Percentage who scored 90% or higher	98

Developer: NATTC, NAS, MEMPHIS

MASERS Q-12
Identification Code: CNATT-M196 PAT
Presents the definition of the acronyms MASER and LASER. Explains the basic theory of operation of MASERS.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 13 minutes

Validation Data:	Number of learners tested	56
	Low score	100
	High score	100
	Percentage who scored 90% or higher	100

Developer: NATTC, NAS, MEMPHIS

Matter, P-I-1R (Elements of Electrical Physics)
Identification Code: CNATT-M480 PAT
Teaches the definition of matter, molecule, atom, element and compound. Teaches the structure of the atom.
Prepared for: Avionics Technician School, Class A, students
Type of Program: Linear
Average Time Required: 42 minutes

Validation Data:	Number of learners tested	51
	Low score	64
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Microphones, IB-IX-5B
Identification Code: CNATT-M188 PAT
Construction and operation of military microphones and application of military microphones.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 38 minutes

Validation Data:	Number of learners tested	63
	Low score	85
	High score	100
	Percentage who scored 90% or higher	90.47

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Motors, Converters, Inverters, Dynamotors, and Voltage Regulators, P-VI-2R
Identification Code: CNATT-M513 PAT
Teaches the operation of electric motors, dynamotors, inverters, and converters. Teaches the purpose and operation of the voltage regulator and the reverse current relay.
Prepared for: Avionics Technician School, Class A, students
Type of Program: Linear
Average Time Required: 59 minutes

Validation Data:		
	Number of learners tested	50
	Low score	60
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Multi-Element Tubes as Amplifiers
Identification Code: NAVPERS 93600-6
The characteristics and construction of tetrode and pentode amplifier tubes, their function and uses. The causes and effects of inter-electrode capacitance upon triode vacuum tubes, tetrode vacuum tubes, and pentode vacuum tubes.
Prepared for: STG Class A-1 School students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	70
	Low score	72
	High score	100
	Percentage who scored 90% or higher	94

Developer: BUPERS (PERS-C13)

Multimeters, P-V-5
Identification Code: CNATT-P-4950 (Rev. 11-65)
Covers the: Multimeter, its scales, and the types of multimeters; Methods used for calculating values of shut resistors, range resistors, current limiting resistors, and zero adjust resistors; and Safety precautions necessary when using multimeters.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Branching
Average Time Required: 1 hour

Validation Data:	Number of learners tested	68
	Low score	71
	High score	100
	Percentage who scored 90% or higher	95.2

Developer: NATTC, NAS, MEMPHIS

Programed Text for Multimeter AN/PSM-4
Identification Code: None. Use title.
Consists of five sections: Purpose of the Multimeter AN/PSM-4. Identification of meter scales, controls, plug-in-jacks, and leads. Reading the meter. Safety precautions. Using the meter. The first four sections are comprised of only paper and pencil items; the last section guides the trainee through a set of measurements in which he uses the multimeter of a special test circuit.
Prepared for: Class A School students
Type of Program: Linear
Average Time Required: 7 hours and 17 minutes

Validation Data:	Number of learners tested	31
	Low score	56
	High score	100
	Percentage who scored 90% or higher	55

Developer: NAVPERSRESCHACTY, SAN DIEGO

Multipliers and Dividers, D-11
Identification Code: CNATT-M383 PAT
Teaches the method of multiplying or dividing a binary number by a power of two. Explains the theory of operation of basic multiplier and divider, circuits. Explains the function of the sign comparator.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 38 minutes

Validation Data:	Number of learners tested	48
	Low score	80
	High score	100
	Percentage who scored 90% or higher	98

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Ohm's Law, P-I-4R (Elements of Electrical Physics)
Identification Code: CNATT-M482 PAT
Explains Ohm's Law and the relationship between voltage, current, and resistance in a simple circuit. Teaches the formulas derived from Ohm's Law and their uses. Provides practice problems using the three basic forms of Ohm's Law to solve for voltage, current and resistance.
Prepared for: Avionics Technician School, Class A, students
Type of Program: Linear
Average Time Required: 37 minutes

Validation Data:	Number of learners tested	51
	Low score	86
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, MEMPHIS

Ohmmeters, IB-V-3
Identification Code: CNATT-M337 PAT
Theory and use of series and shunt type ohmmeters. Safety precautions to be observed when using an ohmmeter. Requires the solving of series and shunt ohmmeter problems.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 54 minutes

Validation Data:	Number of learners tested	52
	Low score	73
	High score	100
	Percentage who scored 90% or higher	90.4

Developer: NATTC, NAS, MEMPHIS

Basic Oscillator Action and Armstrong Oscillator, VT-16A
Identification Code: CNATT-P-M76 PAT
Necessary components and the function of each component for a basic oscillator, how bias affect operation of the Armstrong oscillator, basic knowledge of the difference between types of bias, and advantages and disadvantages of grid-leak bias.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 50 minutes

Validation Data:	Number of learners tested	58
	Low score	62
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Oscillators
Identification Code: NAVPERS 93600-8
The purpose and uses of oscillators in electronic circuits. Various terms pertaining to oscillators: positive feed-back, amplitude stability, frequency stability, fly-wheel effect, series-fed and shunt-fed. Primary requirements for a basic oscillator circuit. The characteristics and operation of the series-fed and shunt-fed Hartley Oscillators and the electron coupled oscillator.
Prepared for: STG Class A-1 School students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	79
	Low score	65
	High score	100
	Percentage who scored 90% or higher	91

Developer: BUPERS (PERS-C13)

ELECTRONICS

Oscillators, Hartley and Others, VT-16B
Identification Code: CNATT-P-M85
Covers the importance of stability in an electronic circuit, the differences in oscillator construction, and various types of coupling of energy from the oscillator.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and / minutes

Validation Data:	Number of learners tested	61
	Low score	80
	High score	100
	Percentage who scored 90% or higher	96.7

Developer: NATTC, NAS, MEMPHIS

Parallel Circuits, P-III-2
Identification Code: CNATT-P-4959
Covers the definition of Kirchoff's laws governing parallel circuits. Covers and provides practice in the application of various laws and formulas to typical parallel circuit problems.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Branching
Average Time Required: 2 hours and 15 minutes

Validation Data:	Number of learners tested	64
	Low score	73
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

Parallel LR Circuits, IB-VII-5
Identification Code: CNATT-M420 PAT
Teaches two methods of solving parallel LR circuits for total impedance. Teaches methods of solving simple and complex parallel LR circuits for current, voltage, impedance, and power. Contains practice problems with solutions.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 2 hours and 38 minutes

Validation Data:	Number of learners tested	53
	Low score	70
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, MEMPHIS

Parallel RC Circuits, IB-VII-6
Identification Code: CNATT-M356 PAT
Methods of solving for impedance, current and power in a simple parallel RC circuits. Methods of solving for impedance, current and power in complex parallel RC circuits.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 2 hours and 30 minutes

Validation Data:	Number of learneres tested	53
	Low score	20
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Parallel Resonant Circuits, IB-VIII-2
Identification Code: CNATT-P-M52 PAT
Defines and illustrates specific conditions that exist within a parallel circuit while operating at its resonant frequency. A comparison between the resonant characteristics of a series and a parallel circuit is outlined; also a graphical comparison of their frequency response curves is presented. Covers the procedures required to solve for circuit component values at resonance.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 1 hour and 50 minutes

Validation Data:	Number of learners tested	59
	Low score	70
	High score	100
	Percentage who scored 90% or higher	97

Developer: NATTC, NAS, MEMPHIS

Parallel Resonant Circuits, P-IX-4
Identification Code: CNATT-M115 PAT
Covers: The solution of parallel resonant circuits for resonant frequency, inductive reactance, capacitive reactance, current, circuit Q, impedance, and power. A comparison of conditions in series and parallel resonant circuits. The uses of resonant circuits.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 2 hours and 10 minutes

Validation Data:	Number of learners tested	50
	Low score	76
	High score	100
	Percentage who scored 90% or higher	98

Developer: NATTC, NAS, MEMPHIS

Parametric Amplifiers, Q-14
Identification Code: CNATT-M234 PAT
The theory of parametric amplifiers and their applications.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	73
	Low score	90
	High score	130
	Percentage who scored 90% or higher	90.4

Developer: NATTC, NAS, MEMPHIS

Pentodes, VT-9
Identification Code: CNATT-M96 PAT
Theory of the pentode vacuum tube and its related circuitry. How to interpret characteristic curves of a pentode as used in tube manuals. Comparison of remote and sharp cutoff characteristic.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	60
	Low score	69
	High score	100
	Percentage who scored 90% or higher	95

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Plane Vectors and Vector Algebra, IB-VI-4
Identification Code: CNATT-M375 PAT
Introduces the rectangular and polar forms of vector notation. Teaches the mechanics of converting from polar to rectangular notation and vice versa. Teaches procedures for addition, subtraction, multiplication and division of vectors.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 2 hours and 15 minutes

Validation Data:	Number of learners tested	58
	Low score	85
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

PN Junction Diodes and Rectifier Circuits
Identification Code: CNATT-J121 PAT
Teaches formation of a PN Junction, effects of forward and reverse bias and diode operating limitations. Teaches purpose of rectifiers and the formulas used to solve for average voltages of a rectifier circuit.
Prepared for: Class A School students
Type of Program: Linear
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	89
	Low score	72
	High score	100
	Percentage who scored 90% or higher	92.12

Developer: NATTC, NAS, JACKSONVILLE

Polyphase Systems, IB-IX-3AR and IB-IX-3BR
Identification Code: (3AR) CNATT-M522 PAT/(3BR) CNATT-M523 PAT
Teaches the generation of polyphase system voltages; properties of the WYE system; properties of the DELTA system; characteristics of polyphase transformers.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 2 hours and 50 minutes

Validation Data:	Number of learners tested	62
	Low score	82
	High score	100
	Percentage who scored 90% or higher	95

Developer: NATTC, NAS, MEMPHIS

A-F Power Amplifiers, VT-15
Identification Code: CNATT-M378 PAT
Teaches A-F power amplifier fundamentals, single-ended power amplifiers, push-pull power amplifiers.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 39 minutes

Validation Data:	Number of learners tested	60
	Low score	65
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Power Supplies, VT-11
Identification Code: CNATT-P-M87 PAT
Covers: Types and functions of power supplies. The characteristic of a full-wave rectifier power supply.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 30 minutes
Validation Data:

Number of students tested	93
Low score	52.6
High score	100
Percentage who scored 90% or higher	91.3

Developer: NATTC, NAS, MEMPHIS

Power Supply Voltage Regulators
Identification Code: NAVPERS 93600-4
Requirements for voltage regulation and the principles of voltage regulation circuitry operation. The characteristics and functions of circuit components. Physical characteristics and schematic symbols of the gas-filled V.R. tube.
Prepared for: STG Class A-1 School students
Type of Program: Linear
Average Time Required: 2 hours
Validation Data:

Number of learners tested	98
Low score	65
High score	100
Percentage who scored 90% or higher	89

Developer: BUPERS (PERS-C13)

Powers of Ten, P-II-1A
Identification Code: CNATT-P-5238
Covers conversion of numbers to: Specific numbers multiplies by specific powers of 10; and Scientific notation, rounded off to three significant digits. Covers problem solving using powers of 10 and the law of exponents by: Multiplication; Division; Raising a power to the second power; Extraction of square roots; and Various combinations of the preceding.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 50 minutes
Validation Data:

Number of learners tested	52
Low score	31
High score	100
Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Resonance and Series Resonant Circuits, P-IX-3A
Identification Code: CNATT-P-5239
Covers: Series resonance and how to solve various factors in a series LCR circuits at resonance. Circuits Q and how Q affects the bandwidth of a series resonant circuit. Voltage drops and practical uses for series resonant circuits.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 8 minutes
Validation Data:

Number of learners tested	62
Low score	75
High score	100
Percentage who scored 90% or higher	98.3

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Introduction to Radio, VT-17

Identification Code: CNATT-P-M42

Covers the different forms of communication, transmission of radio energy, and fundamental requirements of transmitters and receivers.

Prepared for: Avionics Fundamentals School, Class A, students

Type of Program: Linear

Average Time Required: 51 minutes

Validation Data:	Number of learners tested	50
	Low score	84
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Programed Maintenance Course for AN/WRT-1 Radio Transmitter

Identification Code: NavPers 93514

Maintenance and troubleshooting of the AN/WRT-1 Single Sideband Transmitter, using the prime equipment, test equipment, and technical manual.

Prepared for: Shipboard OJT students

Type of Program: Linear-Branching

Average Time Required: 72 hours and 30 minutes

Validation Data: Not available.

Statement of objectives are available in the program.

Developer: BUPERS (PERS-C22)

Programed Maintenance Course for AN/WRT-2 Radio Transmitter

Identification Code: NavPers 93515

Maintenance and troubleshooting of the AN/WRT-2 Single Sideband Transmitter using the prime equipment, test equipment, and technical manual.

Prepared for: Shipboard OJT students

Type of Program: Linear-Branching

Average Time Required: 72 hours and 30 minutes

Validation Data: Not available.

Statement of objectives are available in the program.

Developer: BUPERS (PERS-C22)

Saturable Reactors, IB-MA-3

Identification Code: CNATT-M331 PAT

Theory of operation of the saturable reactor. Provides an understanding of the types of core construction used in non-linear devices.

Prepared for: Avionics Intermediate Course, Class B, students

Type of Program: Linear

Average Time Required: 1 hour and 26 minutes

Validation Data:	Number of learners tested	55
	Low score	74
	High score	100
	Percentage who scored 90% or higher	94.5

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Series Circuits, P-III-1
Identification Code: CNATT-P-4960
Covers the definition of a series circuit and the use of subscripts in part identification. Covers the relationship of resistance, voltage, current and power in series circuits. Provides practice in practical application of the laws governing series circuits to typical problems.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Branching
Average Time Required: 3 hours and 5 minutes

Validation Data:	Number of learners tested	64
	Low score	76
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

Series-Parallel Circuits, P-III-3
Identification Code: CNATT-P-5167
Covers: The description of series circuits in parallel. The description of parallel circuits in series. How to solve these types of circuits for E_T, I_T, R_T and P_T. How to solve these types of circuits for E, I, R, and P of individual parts.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear
Average Time Required: 2 hours and 24 minutes

Validation Data:	Number of learners tested	51
	Low score	60
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, MEMPHIS

Series Resonant Circuits, IB-VIII-1
Identification Code: CNATT-M184 PAT
Characteristics of a series resonant circuit. How to determine the resonant frequency of a series LC circuit. Impedance, current, and voltage characteristics of a series resonant circuit.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 1 hour and 31 minutes

Validation Data:	Number of learners tested	50
	Low score	70
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

Fundamentals of Servo Systems, Q-9
Identification Code: CNATT-M209 PAT
Construction and operation of servo systems. Adjustments for servo systems. Correction of errors in servo systems. Definition of terms used in servo systems.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 43 minutes

Validation Data:	Number of learners tested	73
	Low score	70
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Servo Systems Special Circuits, Q-10
Identification Code: CNATT-M210 PAT
Purpose of servo system special circuits. Definition and operation of modulators and demodulators employed in servo systems. Construction and operation of saturable reactors and magnetic amplifiers. Advantages of magnetic amplifiers over other types of amplifiers.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 25 minutes

Validation Data:	Number of learners tested	55
	Low score	64
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

Single Sideband Theory, N-1
Identification Code: CNATT-M397 PAT
Reviews A-M communications theory. Introduces SSB communications theory. Compares SSB to A-M as to advantages and disadvantages. Explains special requirements and special circuits as applied to SSB equipment.
Prepared for: Aviation Electronics Technician School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 26 minutes

Validation Data:	Number of learners tested	53
	Low score	90
	High score	100
	Percentage who scored 90% or higher	100

Developer: NATTC, NAS, MEMPHIS

Generation of a Sine Wave, P-VII-1R
Identification Code: CNATT-M157 (Rev. 3-70) PAT
Teaches: rectangular system of coordinates; the natural trigonometric functions; the trigonometric solution of right triangles; the relationship of the sine function of angle THETA to the instantaneous value of a generated sine wave.
Prepared for: Avionics Technician School, Class A, students
Type of Program: Linear
Average Time Required: 2 hours and 50 minutes

Validation Data:	Number of learners tested	66
	Low score	61
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Solid State Theory, Common Emitter Characteristics, T-4R
Identification Code: CNATT-M512 PAT
Teaches the: external circuit current flow paths for the input and output circuits using NPN and PNP transistors; characteristics of the common emitter amplifier; input and output impedances, voltage, power and current gain as relayed to other transistor configurations; effects of I_{cbo} and I_b relationship to normal current flow in the circuit; need for bias stabilization and the methods of obtaining bias stabilization.
Prepared for: Avionics Technician School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	73
	Low score	80
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, MEMPHIS

Source Characteristics and Voltage Dividers, IB-II-8
Identification Code: CNATT-M360 PAT
The effect of source resistance on source voltage. The percentage of efficiency required for the three major circuits. Solving voltage dividers for I_b, using Kirchoff's law. Solving voltage dividers for various unknowns.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 3 hours and 29 minutes

Validation Data:	Number of learners tested	69
	Low score	74
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Statics, P-I-2R; Dynamics, P-I-3R
Identification Code: CNATT-M104 PAT
Electricity, how it is produced, and how it is transferred. The effects of atmospheric pressure and humidity on electronic equipment and the methods used to control them. Dynamic electricity and electromotive force. Electron theory of current flow, the difference between an ampere and a coulomb, the symbols used, and the unit of measurement. Electrical resistance (opposition to current flow), the symbols used, and the unit of measurement.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 45 minutes

Validation Data:	Number of learners tested	57
	Low score	60
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Subtractors, D-10B
Identification Code: CNATT-M393 PAT
Teaches the construction of truth tables for subtractor circuits. Teaches subtractor logic circuitry.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	53
	Low score	75
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Synchro Control Transformer, Q-3
Identification Code: CNATT-M100 PAT
Definition and use of synchro control transformers. Definition, proper connections, theory of operation, and discription of synchro capacitors.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 36 minutes

Validation Data:	Number of learners tested	50
	Low score	69
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

Simple Synchro Operation and Application, Q-1
Identification Code: CNATT-M233 PAT
Principles of operation and the application of simple synchros. Electrical and mechanical operation and provides practice in solving problems of induced voltages. Mechanical and electrical operations that take place when the synchro is used to transmit angular position information.
Prepared for: Aviation Fire Control Technician School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 17 minutes

Validation Data:	Number of learners tested	67
	Low score	68
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Review of Transistors
Identification Code: CNATT-N-718
Covers the review of the functions, advantages, disadvantages, symbols, and application of transistors.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 35 minutes

Validation Data:

Number of learners tested	51
Low score	83
High score	100
Percentage who scored 90% or higher	96

Developer: NAMTRAGRU, NAS, MEMPHIS

ELECTRONICS

General Theory of Underwater Sound Detection, X-4

Identification Code: CNATT-M214 PAT

Definitions of the following terms: wavelength, frequency, reflection, refraction, attenuation, SONAR, listening, echo-ranging, range-rate, and doppler effect. Basic principles of underwater sound transmission. Basic operation of underwater sound detection equipments.

Prepared for: Aviation Anti-Submarine Warfare Technician School, Class A, students

Type of Program: Linear

Average Time Required: 52 minutes

Validation Data:	Number of learners tested	58
	Low score	60
	High score	100
	Percentage who scored 90% or higher	94.8

Developer: NATTC, NAS, MEMPHIS

Introduction to Vacuum Tubes, VT-1

Identification Code: CNATT-P-5219

The history and development of vacuum tubes. Basic tube uses: (a) rectifiers, (b) amplifiers, and (c) oscillators.

Prepared for: Avionics Fundamentals School, Class A, students

Type of Program: Linear

Average Time Required: 1 hour and 5 minutes

Validation Data:	Number of learners tested	52
	Low score	87
	High score	100
	Percentage who scored 90% or higher	94.2

Developer: NATTC, NAS, MEMPHIS

Voltage Amplifiers, VT-13

Identification Code: CNATT-P-M50 PAT

Covers the principles of amplifier operation. Shows effects of bias on amplifier operation. Shows how the output signal is developed. Shows relationship of mu and actual gain. Stresses importance of proper operation of circuits in regard to distortion.

Prepared for: Avionics Fundamentals School, Class A, students

Type of Program: Linear

Average Time Required: 1 hour and 10 minutes

Validation Data:	Number of learners tested	58
	Low score	66
	High score	100
	Percentage who scored 90% or higher	91.3

Developer: NATTC, NAS, MEMPHIS

Voltage Dividers, P-III-5

Identification Code: CNATT-M30 PAT

Determine current through each part of the circuit. Determine voltage across each part of the circuit. Compute required resistance of each resistor in the circuit.

Prepared for: Avionics Fundamentals School, Class A, students

Type of Program: Linear

Average Time Required: 1 hour and 35 minutes

Validation Data:	Number of learners tested	60
	Low score	67
	High score	100
	Percentage who scored 90% or higher	93.4

Developer: NATTC, NAS, MEMPHIS

ELECTRONICS

Voltage Regulation and VR Tubes, VT-5
Identification Code: CNATT-M2 PAT
Explains the need for voltage regulation. Gives a simplified explanation of electronic voltage regulation. Covers V-R tube operation. Covers how the voltage regulator tube is used in a practical circuit.
Prepared for: Avionics Fundamental School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 15 minutes

Validation Data:		
	Number of learners tested	50
	Low score	80
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, MEMPHIS

Work, Power, Energy
Identification Code: CNABT-P-621X PAT
Presents the scientific aspect of work, power, and energy.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 15 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Work, Power, Energy (Electrical), P-II-2B
Identification Code: CNATT-P-4956 (Rev. 11-65)
The formula and unit of electrical power and provides practice involving typical problems involving hoursepower and watts. The definition of efficiency and the relationship of input to power. Problem solving electrical efficiency.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Branching
Average Time Required: 1 hour

Validation Data:		
	Number of learners tested	50
	Low score	70
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

Work, Power, Energy (Mechanical), P-II-2A
Identification Code: CNATT-P-4947 (Rev. 11-65)
Basic facts about potential and kinetic energy. Relationship of work force, and distance. Calculations involving work and power and introduces mechanical horsepower.
Prepared for: Avionics Fundamentals School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 46 minutes

Validation Data:		
	Number of learners tested	50
	Low score	70
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

EMBARKATION

Ammunition Compatibility
Identification Code: E-707
To determine what types of ammunition may be stowed together and what types of ammunition requires special stowage. Copies of Coast Guard Pamphlet 108 and NAVWEPS OP 1631 are needed with this program.
Prepared for: Officer and enlisted personnel attending embarkation courses
Type of Program: Linear
Average Time Required: 1 hour
Validation Data: Not available
Developer: LANFORTRACOMLANT, NAVPHIBASE, LITTLE CREEK

Ship's Hold Diagram
Identification Code: E-708-1
For the student to learn to draw and label a hold diagram and to formulate tabular data correctly.
Prepared for: Officer and enlisted personnel attending embarkation courses
Type of Program: Linear
Average Time Required: 1 hour and 30 minutes
Validation Data: Not available
Developer: LANFORTRACOMLANT, NAVPHIBASE, LITTLE CREEK

EMERGENCY PROCEDURES

T-34B Emergency Procedures
Identification Code: CNABT-P-672X PAT
The basic procedures which are essential to the safe operation of any aircraft.
Prepared for: Student Naval Aviators
Type of Program: Linear-Branching
Average Time Required: 1 hour and 15 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

EMOTIONAL ADJUSTMENTS

Emotional Adjustments and Escape Reactions Used by Flight Students
Identification Code: CNABT-P-614X PAT
Recall three adjustments to emotional situations. Identify nine escape reactions. Other related areas.
Prepared for: Prospective Flight Instructors
Type of Program: Branching
Average Time Required: 7 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

ENGINEERING

Introduction to Engineering

Identification Code: F-000-010-004

Designed to introduce the trainee at Basic Enlisted Submarine School to the fundamentals of nuclear power engineering system.

Prepared for: Basic Enlisted Submarine School Class A students

Type of Program: Linear

Average Time Required: 35 minutes

Validation Data:	Number of learners tested	35
	Low score	85
	High score	100
	Percentage who scored 90% or higher	97.2

Developer: NAVSUBSCOL, NAVSUBASE, GROTON

Leveling Instruments

Identification Code: 046/371B

Describes the types of engineering levels and related equipment used in preparation to gradework. Presents the interpretation of level rod readings. Gives the care required by the instruments. Illustrated.

Prepared for: Equipment Operator Class A School students

Type of Program: Linear

Average Time Required: 53 minutes

Validation Data:	Number of learners tested	101
	Low score	70
	High score	100
	Percentage who scored 90% or higher	93.1

Developer: NAVSCOLCONST, CBC, PORT HUENEME

Engineering (Maintenance)

Identification Code: COMTRALANT 20-11

Describes the correct procedures for filling out Shipboard Maintenance Action Forms, Deferred Action Forms, and Work Request Forms.

Prepared for: Engineering Personnel

Type of Program: Linear, Problem Solving

Average Time Required: 3 hours

Validation Data:	Number of learners tested	20
	Low score	75
	High score	100
	Percentage who scored 90% or higher	85

Developer: FTC, NEWPORT

The Fundamentals of Propulsion and Steering

Identification Code: None. Use title.

Explains resistances that ships encounter such as air, wave, eddy and frictional resistance. The program also explains propulsion horsepowers, ship's rudders and steering mechanisms.

Prepared for: Propulsion Engineering Class A School students

Type of Program: Discrimination

Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	60
	Low score	74
	High score	100
	Percentage who scored 90% or higher	90

Developer: BUPERS (PERS-C21)

FRICTION

Friction
Identification Code: CNABT-P-633X PAT
Static, sliding, rolling, and fluid friction. Coefficient of friction and problems using the formula for the coefficient of friction.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 12-15 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

FUEL SYSTEM

A-6A Fuel System Familiarization, Part I
Identification Code: CNATT-N564
Introduces the fuel tank configuration of the A-6A aircraft to the student and also explains the operation of the fuel gages and switches. The proper sequence for fuel transfer and dumping is explained.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 35 minutes

Validation Data:		
	Number of learners tested	64
	Low score	68
	High score	100
	Percentage who scored 90% or higher	93

Developer: NAMTRAGRU, NAS, MEMPHIS

A-6A Fuel System Familiarization, Part II
Identification Code: CNATT-N725
Teaches the correct procedures for fueling, defueling, and performing fuel contamination checks on the A-6A type of aircraft. It also teaches the safety precautions that must be followed when working around aircraft fuel systems.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 35 minutes

Validation Data:		
	Number of learners tested	52
	Low score	56
	High score	100
	Percentage who scored 90% or higher	92

Developer: NAMTRAGRU, NAS, MEMPHIS

INSULATION

Insulation
Identification Code: None. Use title.
Explains the purpose, types, and uses of insulation materials.
Prepared for: Class A School students
Type of Program: Discimination
Average Time Required: 2 hours

Validation Data:	Number of learners tested	50
	Low score	70
	High score	100
	Percentage who scored 90% or higher	86

Developer: BUPERS (PERS-C21)

INTELLIGENCE

Order of Battle
Identification Code: H-611-10
Designed to teach and acquaint Naval Intelligence Liaison Officers with the collection and relationship of the eight order of battle factors.
Prepared for: All Officers
Type of Program: Linear
Average Time Required: 32 minutes

Validation Data:	Number of learners tested	26
	Low score	87.5
	High score	100
	Percentage who scored 90% or higher	99

Developer: NAVPHIBSCOL, CORONADO

Time/Distance Factors
Identification Code: I-400
To teach the student the terms used in time/distance problems and explains how these terms fit into time/distance formulas. A practical application exercise will give you experience in computing road space and passing time factors of various size aggressor units.
Prepared for: Officer and enlisted attending amphibious staff planning courses
Type of Program: Linear
Average Time Required: 1 hour and 45 minutes

Validation Data:	Number of learners tested	25
	Low score	50
	High score	100
	Percentage who scored 90% or higher	85

Developer: LANFORTRACOMLANT, NAVPHIBASE, LITTLE CREEK

JET ENGINES

Jet Engines, Basic Prop.
Identification Code. CNABT-P-594X PAT
A means of providing students with an efficient method of mastering a general understanding of the component parts and operation of gas-turbine engines.
Prepared for: Naval Aviator students
Type of Program: Linear
Average Time Required: 5 hours
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

The Circular Slide Rule
Identification Code: CNATT-M478 PAT
Teaches the trainee to use the circular slide rule by correcting observed test cell readings to standard day readings.
Prepared for: Class B School students
Type of Program: Linear
Average Time Required: 3 hours and 45 minutes

Validation Data:	Number of learners tested	51
	Low score	88
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, MEMPHIS

Preparation of the J79 Engine for Test Cell Installation
Identification Code: CNATT-M532 PAT
Covers installation of components required for test cell operation of the J79 turbojet engine.
Prepared for: ADJ Class B School students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	50
	Low score	80
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, MEMPHIS

NER-3 Instrumentation (J-79)
Identification Code: CNATT-M477 PAT
Teaches the trainee to record readings from the NER-3 control panel; teaches the location and purpose of the control panel instruments.
Prepared for: Class B School students
Type of Program: Linear
Average Time Required: 53 minutes

Validation Data:	Number of learnerst ested	51
	Low score	88
	High score	100
	Percentage who scored 90% or higher	98

Developer: NATTC, NAS, MEMPHIS

JET ENGINES

Programmed Training Course J79-GE-8A and 15
Identification Code: GEI 84209
A General Electric Training Course consisting of six parts which covers the J79-GE-8A and 15 turbojet engine:

Part IA	Engine Introduction
Part IB	Basic Engine and Airflow
Part IIA	Power Control Introduction, Main Fuel System
Part IIB	Afterburner Fuel System--Variable Nozzle System
Part IIC	Engine Electrical Systems, Lubrication System
Part IID	Power Control Integration, Engine Rigging

Prepared for: ADJ Class B School students
Type of Program: Linear
Average Time Required: 47 hours

Validation Data:	Number of learners tested	50
	Low score	85.5
	High score	99.5
	Percentage who scored 90% or higher	98

Developer: NATTC, NAS, MEMPHIS

Smoke Abatement CI-2
Identification Code: CNATT-N468
To acquaint the personnel who are responsible for the operation of the servicing equipment and others who are required to store and handle the additive with the correct method of handling, moving, storing, and dangers of contact and inhalation of CI-2. It teaches the symptoms of inhalation or contact on the skin or clothes and the correct personnel and clothing decontamination procedures. Covers the methods to clean up additive spills and the protective clothing that must be worn. The safety precautions that apply are also covered.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	52
	Low score	75
	High score	100
	Percentage who scored 90% or higher	93

Developer: NAMTRAGRU, NAS, MEMPHIS

Test Cell Classification
Identification Code: None.
Teaches the trainee the different types of jet engine test facilities used in the Navy. The audio-visual technique is used with this presentation limiting its availability to the ADJ B School, NATTC, Memphis.
Prepared for: Class B School students
Type of Program: Audio-Visual
Average Time Required: 1 hour and 20 minutes

Validation Data:	Number of learners tested	50
	Low score	92
	High score	100
	Percentage who scored 90% or higher	100

Statement of objectives are not available from the developer.
Developer: NATTC, NAS, MEMPHIS

LEARNING

The Successful Student
Identification Code: NCTC PI-7
Describes factors necessary for successful school work, lists and explains basic procedures for study and learning situations, suggestions for efficient notetaking, building listening skills and developing examination skills, explains rules which stress the importance of maintaining mental and physical health.
Prepared for: General Distribution
Type of Program: Linear
Average Time Required: 55 minutes

Validation Data:		
	Number of learners tested	85
	Low score	75
	High score	100
	Percentage who scored 90% or higher	88

Developer: NAVCOMMTRACEN, PENSACOLA

MACHINE

Nomenclature 111W151
Identification Code: None. Use title.
To associate the shape and location of a part to a particular name. All the parts of a Singer sewing machine, 111W151, necessary to learn the line of power, from motor to needle are covered in this program. Illustrated with machine parts. Contains five foldout illustrations of five separate areas of the machine for the student to label and refer to in response to instructions contained in the text.
Prepared for: Class A and Class B School students
Type of Program: Linear
Average Time Required: 2 hours and 30 minutes

Validation Data:	Number of learners tested	50
	Low score	72
	High score	100
	Percentage who scored 90% or higher	88

Developer: NATTC, NAS, LAKEHURST

MAGNETIC ANOMALY DETECTION (MAD)

Introduction to MAD Fundamentals
Identification Code: FAETULANT M-1 6801
Provides the trainee with an understanding of magnetism and the basic principles of Magnetic Anomaly Detection.
Prepared for: Prospective ASW Flight Crews
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	52
	Low score	90
	High score	100
	Percentage who scored 90% or higher	100

Developer: FAETULANT

MAD Signal Interpretation (A CONFIDENTIAL Program)
Identification Code: FAETULANT M-2 6802
Provides the prospective ASW Flight Crew member with a complete understanding of interpretation of magnetic anomaly detection signals.
Prepared for: Prospective ASW Flight Crews
Type of Program: Linear
Average Time Required: 48 minutes

Validation Data:	Number of learners tested	50
	Low score	88
	High score	100
	Percentage who scored 90% or higher	98

Developer: FAETULANT

MAIN SHAFTING AND BEARINGS

Main Shafting and Bearings
Identification Code: None. Use title.
Explains the purpose and construction of main shafting and bearings.
Prepared for: Propulsion Engineering Class A School students
Type of Program: Discrimination
Average Time Required: 2 hours

Validation Data:	Number of learners tested	64
	Low score	70
	High score	100
	Percentage who scored 90% or higher	87

Developer: BUPERS (PERS-C21)

MAINTENANCE

Maintenance Action Form

Identification Code: CNATT-P-4970 (Rev. 5-69)
Aids students in developing the ability to properly complete entries in Maintenance Action Forms.
Prepared for: NAMTRADETS students
Type of Program: Linear-Branching
Average Time Required: 2 hours and 20 minutes

Validation Data:	Number of learners tested	74
	Low score	83
	High score	100
	Percentage who scored 90% or higher	96

Developer: NAMTRAGRU, NAS, MEMPHIS

Programmed Forecast Loran Maintenance Course

Identification Code: J-102-600
Functions and operational maintenance of the AN/UPN-12/15 Loran Receiver including a detailed trouble-shooting guide.
Prepared for: Electronic Technicians - Strikers and above
Type of Program: Linear-Branching
Average Time Required: 6 weeks - under average shipboard conditions

Validation Data:	Number of learners tested	20
	Low score	28.5
	High score	93.75
	Percentage who scored 90% or higher	5

Statement of objectives are not available from the developer.
Developer: FTC, NORFOLK

Radar Set AN/SPG-55B ORDALT 5873 Power Sharing Self-Study Maintenance Course

Identification Code: NavPers 94013 - Volume 1, Part 1, Workbook
NavPers 94014 - Volume 1, Part 2, Answer Book
NavPers 94015 - Volume 2, Technical Data Book
NavPers 94016 - Volume 3, Supervisor's Instructions
Contains: overview; troubleshooting of fixed track and jittered track trigger circuits and power supplies; RF and mode switching; checkout of power sharing; supplementary tests of power sharing; final evaluation; and training.
Prepared for: Shipboard Fire Control Technicians (NEC 1165)
Type of Program: Mathetical
Average Time Required: 32 hours

Validation Data:	Number of learners tested	15
	Low score	66
	High score	100
	Percentage who scored 93% or higher	93

Developer: BUPERS (PERS-C12)

MANEUVERING

Maneuvering Board

Identification Code: PRA SD
Teaches the use of Maneuvering Board to assist in tactical maneuvers of ship.
Prepared for: Officer and Enlisted personnel with responsibilities on bridge and in CIC
Type of Program: Branching
Average Time Required: 4 hours

Validation Data:	Number of learners tested	48
	Low score	60
	High score	100
	Percentage who scored 90% or higher	73

Developer: FAAWTC, SAN DIEGO

MATHEMATICS

Algebraic Fundamentals, IB-I-3
Identification Code: CNATT-M433 PAT
Teaches: the identification of terms, factors, and coefficients of an algebraic expression; the identification of monomials, binomials, trinomials, and polynomials; how to evaluate algebraic expressions; how to insert, or remove signs of grouping; how to add, subtract, multiply, divide and factor algebraic expressions or terms.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 3 hours and 13 minutes

Validation Data:	Number of learners tested	51
	Low score	80
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, MEMPHIS

Angles and Triangles
Identification Code: None. Use title.
Explains how to add and subtract angles, definitions of angles, labeling of angles, labeling triangles, definitions of triangles, functions of angles, and general characteristics of angles.
Prepared for: AG Class B School students
Type of Program: Linear
Average Time Required: 55 minutes

Validation Data:	Number of learners tested	53
	Low score	81
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, LAKEHURST

MATHEMATICS

Fractions and Ratios
Identification Code: None. Use title.
Explains how to find the lowest common denominator, add, subtract, multiply and divide fractions and mixed numbers and how to set up a ratio.
Prepared for: AG B School students
Type of Program: Linear/Branching
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	47
	Low score	64
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, LAKEHURST

MATHEMATICS

Linear Equations, IB-I-5
Identification Code: CNATT-M479 PAT
Defines linear equations and teaches the student the meaning and uses of subtraction, division, substitution, multiplication, addition, roots and powers axions. Teaches the student how to solve linear equation containing one unknown. Provides practice problems to enable the student to become proficient in solving simultaneous linear equations using the addition, subtraction and substitution methods.
Prepared for: Avionics Intermediate Course, Class B School, students
Type of Program: Linear
Average Time Required: 2 hours and 55 minutes

Validation Data:	Number of learners tested	57
	Low score	70
	High score	100
	Percentage who scored 90% or higher	95

Developer: NATTC, NAS, MEMPHIS

MATHEMATICS

Quadratic Equations
Identification Code: CNABT-P-631 PAT
The recognition and solving of quadratic equations and problems involving units.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 17 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Signed Numbers
Identification Code: CNATT-J65 PAT
Solving problems that involve positive and negative numbers by addition, subtraction, multiplication, and division.
Prepared for: Class A School students
Type of Program: Linear
Average Time Required: 1 hour and 30 minutes

Validation Data:		
	Number of learners tested	93
	Low score	73
	High score	100
	Percentage who scored 90% or higher	91.4

Developer: NATTC, NAS, JACKSONVILLE

Signed Numbers
Identification Code: None. Use title.
Explains how to solve problems in addition, subtraction, multiplication and division with like and unlike signs.
Prepared for: AG B School students
Type of Program: Linear/Branching
Average Time Required: 46 minutes

Validation Data:		
	Number of learners tested	44
	Low score	75
	High score	100
	Percentage who scored 90% or higher	75*

*Four objectives preclude use of the 90/90 system
Developer: NATTC, NAS, LAKEHURST

Slide Rule
Identification Code: CNABT-P-605 PAT
Upon completion of the text, the student should be able to perform the following operations on the slide rule: read scales, multiply, divide, solve proportions, square, find the square root, cube, find the cube root, and solve combination problems.
Prepared for: Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 38 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

MATHEMATICS

Slide Rule: Basic Operations, IB-I-2A
Identification Code: CNATT-M463 PAT
Teaches the identification of slide rule components and scales. Teaches multiplication, division, combined operations, reciprocals, squares, square roots and cube roots.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 3 hours and 30 minutes

Validation Data:	Number of learners tested	57
	Low score	82
	High score	100
	Percentage who scored 90% or higher	95

Developer: NATTC, NAS, MEMPHIS

Slide Rule: Logarithms, IB-I-2B
Identification Code: CNATT-M462 PAT
Teaches logarithms and antilogarithms and how to determine them using the slide rule. Teaches multiplication, division, raising numbers to different powers, and extracting roots.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 2 hours and 25 minutes

Validation Data:	Number of learners tested	57
	Low score	50
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, MEMPHIS

Learn Basic Slide Rule on Your Own, Frederick Post Co.
Identification Code: None. Use title.
Explains use of the slide rule and decimal location for division.
Prepared for: AG B School students
Type of Program: Branching
Average Time Required: 47 minutes

Validation Data:	Number of learners tested	49
	Low score	40
	High score	100
	Percentage who scored 90% or higher	86

Developer: NATTC, NAS, LAKEHURST

Trigonometric Functions on the Slide Rule: Sine and Cosine Functions, IB-VI-3B
Identification Code: CNATT-M418 PAT
Teaches the utilization of the sine function to solve for the angle, the side opposite, or the hypotenuse when any two of these elements are known. Teaches the utilization of the cosine function to solve for the angle, the side adjacent, or the hypotenuse when any two of these elements are known.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 1 hour and 28 minutes

Validation Data:	Number of learners tested	61
	Low score	67
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, MEMPHIS

MATHEMATICS

Trigonometric Functions on the Slide Rule: Tangent Functions, IB-VI-3C
Identification Code: CNATT-M419 PAT
Teaches the utilization of the tangent function to solve for the angle, the side opposite, or the side adjacent when any two of these elements are known. Teaches methods for the solution of any unknown element of a right triangle.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 2 hours

Validation Data:	Number of learners tested	61
	Low score	67
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

Trigonometric Functions on the Slide Rule: Trigonometric Scales, IB-VI-3A
Identification Code: CNATT-M417 PAT
Explains the S and T Scales. Teaches the determination of the Sine, Cosine, and Tangent functions when the angle is known. Teaches the determination of the angle when Sine, Cosine, or Tangent function is known.
Prepared for: Avionics Intermediate Course, Class B, students
Type of Program: Linear
Average Time Required: 1 hour and 23 minutes

Validation Data:	Number of learners tested	61
	Low score	65
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Square and Cubic Measure
Identification Code: 017/421A
Presents the fundamental concepts of square and cubic measure as used in solving cubic inch displacement of engines. It begins with the definition and symbols used.
Prepared for: Students Construction Mechanic Class A School
Type of Program: Linear
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learnere tested	200
	Low score	73
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAVSCOLCONST, CBC, PORT HUENEME

Square and Square Root
Identification Code: CNATT-P-5294 PAT
Problem solving involving the squaring of whole numbers and fractions. Problem solving involving extracting the square root of whole numbers and fractions.
Prepared for: Class A School students
Type of Program: Linear
Average Time Required: 1 hour and 38 minutes

Validation Data:	Number of learners tested	76
	Low score	83
	High score	100
	Percentage who scored 90% or higher	93.24

Developer: NATTC, NAS, JACKSONVILLE

MATHEMATICS

Solution of Right Triangles
Identification Code: None. Use title.
Explains the solution of right triangles by the use of the Pythagorean theorem and trigonometric functions of sine, cosine and tangent.
Prepared for: AG Class A School students
Type of Program: Linear
Average Time Required: 2 hours and 7 minutes
Validation Data:

Number of learners tested	59
Low score	50
High score	100
Percentage who scored 90% or higher	97

Developer: NATTC, NAS, LAKEHURST

Vectors
Identification Code: None. Use title
Explains scalars and vectors in graphic form. It is used in conjunction with the program, "Measurement, English and Metric Systems".
Prepared for: Class A School students
Type of Program: Discrimination
Average Time Required: 1 hour and 30 minutes
Validation Data:

Number of learners tested	56
Low score	85
High score	100
Percentage who scored 90% or higher	96.5

Developer: BUPERS (PERS-C21)

Vectors
Identification Code: CNABT-P-681 (Rev. 6-66) PAT
Define the term vector and tell how to represent it graphically. Find the vertical and horizontal components of a vector. Be able to solve for the resultant of two or more vectors and solve practical problems involving vector solutions.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 16 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

MEASURING

Liquid Level Measuring Devices
Identification Code: None. Use title.
Explains the types and uses of gauge glasses and counting rods.
Prepared for: Class A School students
Type of Program: Discrimination
Average Time Required: 2 hours
Validation Data:

Number of learners tested	60
Low score	60
High score	100
Percentage who scored 90% or higher	85

Developer: BUPERS (PERS-C21)

MEASURING

Precision Measuring Instruments
Identification Code: None. Use title.
Explains the types, uses, and nomenclature of precision measuring instruments.
Prepared for: Class A School students
Type of Program: Discrimination
Average Time Required: 2 hours

Validation Data:	Number of learners tested	82
	Low score	80
	High score	100
	Percentage who scored 90% or higher	90

Developer: BUPERS (PERS-C21)

Pressure Measuring Devices
Identification Code: NAVPERS 94465
Describes the purpose of pressure measuring devices and explains the types of pressure measuring devices.
Prepared for: Basic Propulsion Engineering School, Class "A", students
Type of Program: Discimination
Average Time Required: 59 minutes

Validation Data:	Number of learners tested	99
	Low score	70
	High score	100
	Percentage who scored 90% or higher	93.18

Developer: BUPERS (PERS-C21)

MECHANICAL

Oxyacetylene Welding - Part III - Characteristics of Steel
Identification Code: CNATT-M177 PAT
Explains the characteristics of steels the novice welder might be required to weld.
Prepared for: AS Class A School students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	54
	Low score	63
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Oxyacetylene Welding - Part IV - Welding Techniques
Identification Code: CNATT-M178 PAT
Explains and illustrates some of the welding positions to use in making certain weld joints.
Prepared for: AS Class A School students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	54
	Low score	84
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, MEMPHIS

Oxyacetylene Welding - Part V - Weld Joints
Identification Code: CNATT-M179 PAT
Explains and illustrates the basic weld joints.
Prepared for: AS Class A School students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	54
	Low score	79
	High score	100
	Percentage who scored 90% or higher	95

Developer: NATTC, NAS, MEMPHIS

Oxyacetylene Welding - Part VI - Oxyacetylene Cutting
Identification Code: CNATT-M180 PAT
Explains how metal is cut with an oxyacetylene cutting torch.
Prepared for: AS Class A School students
Type of Program: Adjunct
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	54
	Low score	83
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

MECHANICAL

Oxyacetylene Welding - Part VII - Braze Welding and Silver Brazing
Identification Code: CNATT-M181 PAT
Explains the procedures followed in braze weling and silver brazing.
Prepared for: AS Class A School students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	54
	Low score	86
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Pipe Tubing, and Fittings
Identification Code: None. Use title.
Defines pipe, tubing and fittings, the material used in piping systems, and the precautions to be taken in installation.
Prepared for: Propulsion Engineering, Class A School, students
Type of Program: Linear-Discrimination
Average Time Required: 1 hour and 6 minutes

Validation Data:	Number of learners tested	80
	Low score	85
	High score	100
	Percentage who scored 90% or higher	96

Developer: BUPERS (PERS-C21)

Rigging Aircraft Control Surfaces
Identification Code: CNATT-P-5213 PAT
Effects of high or low cable tension. Instruments used to determine tension. Precautions and methods of checking control surface throw and freedom of movement.
Prepared for: AMS Class A School
Type of Program: Linear
Average Time Required: 1 hour and 26 minutes

Validation Data:	Number of learners tested	44
	Low score	94
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, MEMPHIS

Aircraft Spark Plugs
Identification Code: CNATT-M109 PAT
The parts of an aircraft spark plug. The operation, maintenance, and care of spark plugs. Procedures for their installation, removal, and storage; and the special tools used in conjunction with aircraft spark plugs.
Prepared for: ADR Class A School students
Type of Program: Linear
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	55
	Low score	77
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, MEMPHIS

MECHANICAL

Steam Traps

Identification Code: None. Use title.

Describes the four purposes of steam traps, the four types of steam traps and lists the procedures for installation and maintenance.

Prepared for: Propulsion Engineering, Class A School, students

Type of Program: Linear-Discrimination

Average Time Required: 1 hour and 6 minutes

Validation Data:	Number of learners tested	54
	Low score	76
	High score	100
	Percentage who scored 90% or higher	59.4

Developer: BUPERS (PERS-C21)

METEOROLOGY--SURFACE OBSERVATIONS

Ceiling Identification
Identification Code: CNATT-L94 PAT
Defines a cloud ceiling and explains the use of ceiling identifiers.
Prepared for: AG Class A School students
Type of Program: Linear
Average Time Required: 26 minutes

Validation Data:	Number of learners tested	47
	Low score	100
	High score	100
	Percentage who scored 90% or higher	100

Developer: NATTC, NAS, LAKEHURST

Cloud Entries, MF1-10A, Column 13
Identification Code: CNATT-L83 PAT
Determine selection and entry of cloud information on MF1-10A, Surface Weather Observations (land stations)
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	50
	Low score	52
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, LAKEHURST

METEOROLOGY--SURFACE OBSERVATIONS

Cloud Entries WBAN 10A Column 3
Identification Code: None. Use title.
Explains how the height and amount of cloud layers are coded for entry in column 3 of Form WBAN 10A.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 35 minutes

Validation Data:	Number of learners tested	49
	Low score	80
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

Cloud Entries, WBAN 10B
Identification Code: None. Use title.
Explains cloud entries on WBAN 10B form.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	58
	Low score	74
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, LAKEHURST

Cloud Heights and Related Instruments
Identification Code: None. Use title.
Reportable values for cloud heights and methods of determining cloud heights. Includes theory of operation and use of the Cloud Height Set AN/GMQ-13 and Ceiling Light Projector ML-121.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 47 minutes

Validation Data:	Number of learners tested	76
	Low score	73
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, LAKEHURST

METEOROLOGY--SURFACE OBSERVATIONS

Precipitation, Part I
Identification Code: None. Use title.
Definitions. Precipitation measurements with the 4-inch plastic rain gage and tipping-bucket rain gage. Determining water equivalent of solid precipitation.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 51 minutes

Validation Data:	Number of learners tested	62
	Low score	84
	High score	100
	Percentage who scored 90% or higher	97

Developer: NATTC, NAS, LAKEHURST

Precipitation, Part II
Identification Code: None. Use title.
Entry of precipitation data on WBAN forms, 10A and 10B.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 50 minutes

Validation Data:	Number of learners tested	60
	Low score	80
	High score	100
	Percentage who scored 90% or higher	95

Developer: NATTC, NAS, LAKEHURST

Pressure Entries, Part I, WBAN 10B
Identification Code: None. Use title.
Computation of station pressure and entries on WBAN 10B.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 2 hours and 10 minutes

Validation Data:	Number of learners tested	57
	Low score	84
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, LAKEHURST

Pressure Entries, Part II, MF1-10A
Identification Code: CNATT-L71 PAT
Completion of column entries for pressure on MF1 Form 10A.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 37 minutes

Validation Data:	Number of learners tested	38
	Low score	75
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, LAKEHURST

METEOROLOGY--SURFACE OBSERVATIONS

Pressure Instruments (Aneroid Barometer and Open-Scale Barograph)
Identification Code: None. Use title.
Definitions of pressure terms. Component parts of, and determination of pressure from the precision aneroid barometer, and the open-scale barograph.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 27 minutes

Validation Data:	Number of learners tested	71
	Low score	76
	High score	100
	Percentage who scored 92% or higher	97

Developer: NATTC, NAS, LAKEHURST

Pressure Terms and Instruments
Identification Code: None. Use title.
Definitions of terms peculiar to atmospheric pressure and related pressures. Construction, uses, and operation of the Fortin Mercurial Barometer.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 45 minutes

Validation Data:	Number of learners tested	61
	Low score	72
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, LAKEHURST

The Psychrometric Computer
Identification Code: None. Use title.
Error of parallax. Use and maintenance of the Psychrometric Computer CP-165A/UM.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 50 minutes

Validation Data:	Number of learners tested	48
	Low score	75
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, LAKEHURST

Special Observations
Identification Code: None. Use title.
Requirement criteria and elements to be reported in special observations. Entries on WBAN Forms 10A and 10B.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 28 minutes

Validation Data:	Number of learners tested	45
	Low score	88
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, LAKEHURST

METEOROLOGY--SURFACE OBSERVATIONS

Temperature and Humidity Entries, WBAN 10A and 10B
Identification Code: None. Use title.
Explains temperature and humidity entries on WBAN Forms 10A and 10B.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 25 minutes

Validation Data:	Number of learners tested	68
	Low score	60
	High score	100
	Percentage who scored 90% or higher	89

Developer: NATTC, NAS, LAKEHURST

Temperature Instruments and Observations
Identification Code: None. Use title.
Characteristics, use, and maintenance of standard air thermometers and sling, rotor, and hand-electric psychrometers. Temperature and dew-point readings from the semi-automatic meteorological station AN/GMA-14. Characteristics and location of the instrument shelter.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 38 minutes

Validation Data:	Number of learners tested	50
	Low score	88
	High score	100
	Percentage who scored 92% or higher	90

Developer: NATTC, NAS, LAKEHURST

Visibility Entries
Identification Code: CNATT-L62 PAT
Determination, selection, and entry of visibility information on MF1 Form 10A.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 42 minutes

Validation Data:	Number of learners tested	49
	Low score	30
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, LAKEHURST

Visibility Observations and Instruments
Identification Code: None. Use title.
Definition and determination of visibility. Use of visual aids and the transmissometer, AN/GMQ-10.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 33 minutes

Validation Data:	Number of learners tested	63
	Low score	73
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

METEOROLOGY--SURFACE OBSERVATIONS

Wind Observation, Part I
Identification Code: CNATT-L43 PAT
Definition of wind direction; veering and backing wind, gusts and squalls, and wind shifts. Procedure for observing and estimating wind speed and direction. Component parts, principles of operation, and maintenance schedule of Wind Measuring Set AN/UMQ-5C.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 39 minutes

Validation Data:	Number of learners tested	38
	Low score	83
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, LAKEHURST

Wind Observation, Part II
Identification Code: CNATT-L72 PAT
Determination, selection and entry of wind information on MF1-10A and MF1-10B.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 37 minutes

Validation Data:	Number of learners tested	64
	Low score	81
	High score	100
	Percentage who scored 90% or higher	98

Developer: NATTC, NAS, LAKEHURST

Wind Observation, Part III
Identification Code: None. Use title.
Operation and maintenance of the Wind Measuring Set AN/PMQ-3.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 27 minutes

Validation Data:	Number of learners tested	68
	Low score	84
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, LAKEHURST

MILITARY JUSTICE

Uniform Code of Military Justice, Article 15
Identification Code: CNABT-P-581 PAT
Non-judicial punishment. Punishment authorized by Article 15 of the UCMJ. The rights of the accused under Article 15 of the UCMJ.
Prepared for: Basic Naval Aviation Officers School students
Type of Program: Linear
Average Time Required: 21 minutes
Validation Data: Not available.
Developer: NABATRA, NAS, PENSACOLA

MILITARY PLANNING

The Military Planning Process
Identification Code: NavPers 94408
The Military Planning Process Programmed Instruction is based on information contained in NWP 11(A). The book contains four sections, three of instruction and one of exhibits. Part I covers the Commander's Estimate of the situation and includes analysis of the mission, enemy capabilities, own courses of action, and the decision. Part II covers the development of the Plan and includes Component Operations, Friendly Supporting Operations, Task Organizations, Assignment of Tasks and the writing of the Directive. Part III covers supervision of the Planned Action and includes pre-action planning, running estimate, and planning requirements during the action phase. To be used as basic foundation for military planning, and as a supplement to the study of military planning.
Prepared for: Students Naval War College
Type of Program: Linear
Average Time Required: 4 hours and 30 minutes

Validation Data:	Number of learners tested	190
	Low score	78
	High score	100
	Percentage who scored 90% or higher	89.7

Developer: BUPERS (PERS-C31)

The Military Planning Process, Fleet Air Operations
Identification Code: CNABT-P-630 PAT
Purpose of the military planning process and directive, steps involved, and composition. Purpose of the annex, appendix, and TAB. How and when directives become effective. Information required to pass a criterion examination.
Prepared for: Basic Naval Aviation Officers School students
Type of Program: Linear
Average Time Required: 15 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

MUNITIONS

Introduction to Aircraft Bombs
Identification Code: CNATT-J36 PAT
Purposes of aircraft bombs. Different classes of aircraft bombs. Components of aircraft bombs. Safety precautions.
Prepared for: Class A and B Ordnance Schools students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	93
	Low score	75
	High score	100
	Percentage who scored 90% or higher	90.32

Developer: NATTC, NAS, JACKSONVILLE

MUNITIONS

Introduction to Aircraft Rockets
Identification Code: CNATT-P-4999 PAT
Introduction to aircraft rockets. Types of aircraft rockets and their sizes. Basic launchers used with aircraft rockets. Safety precautions.
Prepared for: Class A Ordnance School students
Type of Program: Linear
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	85
	Low score	70
	High score	100
	Percentage who scored 90% or higher	95

Developer: NATTC, NAS, JACKSONVILLE

Depth Bombs and Signals Underwater Sound
Identification Code: CNATT-J23 PAT
States the purpose, weight, loading factor, range and method of suspension and hoisting the Mk 54 Depth Bomb. Lists the nose and tail fuze used in the Mk 54 Depth Bomb. States the purpose of the Mk 64 Sound Underwater Signal. Gives the firing depths and explosive of the Mk 64 Sound Underwater Signal. Cover precautions pertaining to depth bombs and SUS's.
Prepared for: Class A and B Ordnance Schools students
Type of Program: Linear
Average Time Required: 35 minutes

Validation Data:	Number of learners tested	114
	Low score	85
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, JACKSONVILLE

Low Explosives (Propellants)
Identification Code: None. Use title.
Gives a brief description of low explosives. Gives the uses and composition of low explosives. Gives a few safety precautions concerning low explosives.
Prepared for: AO Class A School students
Type of Program: Linear
Average Time Required: 55 minutes

Validation Data:	Number of learners tested	92
	Low score	52
	High score	100
	Percentage who scored 90% or higher	92.9

Developer: NATTC, NAS, JACKSONVILLE

2.75-Inch FFAR
Identification Code: CNATT-J40 PAT
Purpose and description of the 2.75-Inch FFAR. Motors, warheads, and fuzes used for 2.75-Inch FFAR. Launcher packages used with 2.75-Inch FFAR. Switching units used for training when firing 2.75-Inch FFAR's. Safety precautions.
Prepared for: Class A and B Ordnance Schools students
Type of Program: Linear
Average Time Required: 1 hour and 40 minutes

Validation Data:	Number of learners tested	98
	Low score	70
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, JACKSONVILLE

MUNITIONS

Introduction to Army and Navy Fuzes
Identification Code: CNATT-P-5115 PAT
Designed to give a basic knowledge of: Army and Navy fuzes in general and how to differentiate between them. Safety precautions in the handling, storing, and assembly of fuzes. Nomenclature of components and their functions.
Prepared for: Class A and B Ordnance Schools students
Type of Program: Linear
Average Time Required: 59 minutes

Validation Data:	Number of learners tested	164
	Low score	67
	High score	100
	Percentage who scored 90% or higher	91

Developer: NATTC, NAS, JACKSONVILLE

AN-M103A1 Bomb Nose Fuze
Identification Code: CNATT-J14 PAT
Covers the nomenclature of the fuze components and their cycle of operation, the functioning times, arming times, and the external evidence of arming, and safety precautions pertaining to A/C Nose Fuze AN/M103A1.
Prepared for: Class A and B Ordnance Schools students
Type of Program: Linear
Average Time Required: 43 minutes

Validation Data:	Number of learners tested	91
	Low score	92
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, JACKSONVILLE

Mechanical Time Fuze M907
Identification Code: CNATT-J129
Describes the type of fuze, states the function in time, describes the weapons that can use the M907. States the vane that is standard for the 907 fuze, and describes the three ways of determining external evidence of arming.
Prepared for: AO Class A School students
Type of Program: Linear
Average Time Required: 27 minutes

Validation Data:	Number of learners tested	58
	Low score	80
	High score	100
	Percentage who scored 90% or higher	98

Developer: NATTC, NAS, JACKSONVILLE

AN-M100A2 Series Bomb Tail Fuzes
Identification Code: CNATT-P-5116 PAT
The nomenclature of the fuze components and their cycle of operation. The different primer-detonators used for AN-M100A2 series bomb fuzes also the arming time and external evidence of arming. Safety precautions pertaining to aircraft tail fuze AN-M100A2.
Prepared for: Class A and B Ordnance Schools students
Type of Program: Linear
Average Time Required: 38 minutes

Validation Data:	Number of learners tested	98
	Low score	74
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, JACKSONVILLE

MUNITIONS

AN/M123A1 Series Bomb Tail Fuzes

Identification Code: CNATT-J2 PAT

Covers the nomenclature of the fuze components and their operation, special precautions and handling instructions pertaining to the AN-M123A1 series fuzes, and arming time and delay times.

Prepared for: Class A Ordnance School students

Type of Program: Linear

Average Time Required: 47 minutes

Validation Data:	Number of learners tested	89
	Low score	67
	High score	100
	Percentage who scored 90% or higher	97

Developer: NATTC, NAS, JACKSONVILLE

5.00-Inch HVAR

Identification Code: CNATT-J38 PAT

Description and use of 5.00-Inch High Velocity Aircraft Rocket. Motors, warheads, and fuzes associated with 5.00-Inch HVAR. Safety and handling precautions.

Prepared for: Class A and B Ordnance Schools students

Type of Program: Linear

Average Time Required: 55 minutes

Validation Data:	Number of learners tested	92
	Low score	77
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, JACKSONVILLE

NAVIGATION (AIR)

INAV-1 Programmed Text
Identification Code: INAV-1 Programmed Text
Designed to teach student Naval aviators the procedures and concepts of instrument flying. The specific communications and electronic equipment is that of the TF-9J Cougar. The student is taught basic instrument flight, use of TACAN and ADF NAV-AIDS and Enroute Procedures.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 4 hours
Validation Data: Not available
Developer: NAS, CHASE FIELD

B-26 Instrument Check
Identification Code: None. Use title.
To aid the student aviator to better prepare for the instrument flight evaluation, flight number B-26 in the multi-engine prop flight syllabus. The publication describes the pilot procedures involved in the various phases of an instrument flight--preflight, departure, enroute, and terminal. Recommended pilot actions in handling in-flight emergencies are also covered. Specifically, the TS-2A is used when reference is made to aircraft speeds, aircraft navigation equipment, and landing configuration.
Prepared for: Multi-engine prop student pilots
Type of Program: Linear
Average Time Required: 2 hours
Validation Data: Not available
Developer: NAS, CORPUS CHRISTI

NAVY TACTICAL DATA SYSTEM (NTDS)

Navy Tactical Data System (NTDS) Display Symbols SY4 (A Confidential Program)
Identification Code: None. Use title.
Designed to teach recognition of NTDS display symbols. Upon completion of the program, the student will be able to name a particular symbol and identify it by configuration when given a list of all NTDS symbols.
Prepared for: NTDS students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	200
	Low score	70
	High score	98
	Percentage who scored 90% or higher	92

Developer: FAAWTC, DAM NECK, VIRGINIA BEACH

NOISE AND HEARING

Noise and Hearing
Identification Code: CNABT-P-603X PAT
The causes of temporary and permanent hearing loss in aviation. The effects of high-intensity noise on human hearing. Stresses the definitions of noise, wound, intensity, cycles per second, and decibels. The methods of preserving and protecting hearing acuity.
Prepared for: Student Naval Aviators/Naval Flight Officers
Type of Program: Linear
Average Time Required: 12 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

NUCLEAR DEFENSE

Basic Atomic Structure and Radioactivity
Identification Code: None. Use title.
Basic structure of the atom; radioactivity; alpha, beta, gamma rays; half life; shielding material.
Prepared for: Two-week NBC Course students
Type of Program: Linear and Linear Discrimination
Average Time Required: 1 hour and 43 minutes

Validation Data:	Number of learners tested	30
	Low score	72
	High score	100
	Percentage who scored 92% or higher	90

Developer: FLETRACEN, CHARLESTON

NUCLEAR DEFENSE

Nuclear Defense (Part 1)
Identification Code: FAAWTC SDiego PI-4
Identify, from descriptions, three types of nuclear bursts and their characteristics. Also covers effects of nuclear bursts on personnel and ships, terminology peculiar to nuclear defense.
Prepared for: CIC Teams (Naval Officer and Enlisted students)
Type of Program: Linear-Text
Average Time Required: 30 minutes

Validation Data:	Number of learners tested	63
	Low score	60
	High score	100
	Percentage who scored 90% or higher	27

Developer: FAAWTC, SAN DIEGO

Nuclear Defense (Part 2) (CIC Procedures) (A Confidential Program)
Identification Code: FAAWTC PI-011
Safety maneuvers at sea in event of nuclear attack; encoding/decoding and plotting of RADFO and NUDET messages.
Prepared for: CIC Team Training--Naval officers and enlisted men
Type of Program: Linear-Loop
Average Time Required: 1 hour

Validation Data:	Number of learners tested	78
	Low score	48
	High score	100
	Percentage who scored 90% or higher	41

Developer: FAAWTC, SAN DIEGO

The Effects of Nuclear Weapons, Set 3
Identification Code: CNATT-N-152 PAT
Covers the terms used for measuring the energy yield of nuclear weapons, the three types of nuclear bursts, and the effects of a nuclear burst. It also covers the two classes of nuclear radiation present in nuclear burst, the zones of destruction, and the destructive order of the three types of nuclear bursts.
Prepared for: NBC Warfare Defense, NAMTRADETS students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	70
	Low score	58
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

ORDNANCE

Programmed Text for B-57 Control and Monitor Aero 6B AMAC (A Confidential--Restricted Data Program)
Identification Code: Attn: Code 60 (use title)
Describes the components of the Aero 6B AMAC System as it related to the B-57 Depth Bomb and evaluation of the responses/indications of the system when controlling and monitoring the B-57 using the Aero 6B AMAC System.
Prepared for: ASW Pilots, Naval Flight Officers, Air Intelligence Officer
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	65
	Low score	85
	High score	100
	Percentage who scored 90% or higher	96

Developer: NUCWPNSTRACENPAC, NORTH ISLAND, SAN DIEGO

Programmed Text for B-57 Control and Monitor T-414 AMAC/P3 Aircraft (A Secret--Restricted Data Program)
Identification Code: Attn: Code 60 (use title)
Describes the components of the T-414(P3) AMAC System as it related to the B-57 Depth Bomb and evaluation of the responses/indications of the system when controlling and monitoring the B-57 using the T-414(P3) AMAC System.
Prepared for: ASW Pilots, Naval Flight Officers, Air Intelligence Officers
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	65
	Low score	85
	High score	100
	Percentage who scored 90% or higher	92

Developer: NUCWPNSTRACENPAC, NORTH ISLAND, SAN DIEGO

Programmed Text for B-57 Depth Bomb (A Secret--Restricted Data Program)
Identification Code: Attn: Code 60 (use title)
Describes the basic design characteristics of the B-57 Nuclear Depth Bomb. It presents the major components and describes the operation of each major component. Weapon fuzes and firing operation of the B-57 when used as a depth bomb are also covered.
Prepared for: ASW Pilots, Naval Flight Officers, Air Intelligence Officers
Type of Program: Linear
Average Time Required: 30 minutes

Validation Data:	Number of learners tested	110
	Low score	85
	High score	100
	Percentage who scored 90% or higher	92

Statement of objectives are not available from the developer.
Developer: NUCWPNSTRACENPAC, NORTH ISLAND, SAN DIEGO

Programmed Text for MK-101 Depth Bomb (A Secret--Restricted Data Program)
Identification Code: Attn: Code 60 (use title)
Describes the basic design characteristics of the MK-101 Nuclear Depth Bomb. It presents the major components and describes the operation of each. Weapon fusing and firing operation in shallow, intermediate, and deep water situations are also covered.
Prepared for: ASW Pilots, Naval Flight Officers, Air Intelligence Officers.
Type of Program: Linear
Average Time Required: 30 minutes

Validation Data:	Number of learners tested	139
	Low score	82
	High score	100
	Percentage who scored 90% or higher	93

Statement of objectives are not available from the developer.
Developer: NUCWPNSTRACENPAC, NORTH ISLAND, SAN DIEGO

ORDNANCE

Fragmentation Bombs

Identification Code: CNATT-J46
Types, loading factors, and explosives used in fragmentation bombs. Two fragmentation bomb clusters are covered, including fuzes used with each. General safety precautions are covered.
Prepared for: AO Class A School, Phase IV, students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	93
	Low score	76
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, JACKSONVILLE

Practice Bombs and Signals

Identification Code: CNATT-J57
The purpose of practice bombs and the nomenclature, plus the safety precautions involved in the handling of practice bombs and the various practice bombs used in the Navy.
Prepared for: AO Class A School, Phase IV, students
Type of Program: Linear
Average Time Required: 35 minutes

Validation Data:	Number of learners tested	83
	Low score	67
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, JACKSONVILLE

Bomb Rack Aero 65A1, Bomb Shackles Mk 8 and Aero 16A

Identification Code: None. Use title.
Covers: The purpose, suspension and capacity of the Aero 65A1 Bomb Rack and the Mk 8 and Aero 16A Bomb Shackles; Maintenance and inspections of the Aero 65A1 Bomb Rack and the Mk 8 and Aero 16A Bomb Shackles; Safety precautions applicable to loading and unloading the Aero 65A1 Bomb Rack and the Mk 8 and Aero 16A Bomb Shackles.
Prepared for: AO Class A School students
Type of Program: Linear
Average Time Required: 37 minutes

Validation Data:	Number of learners tested	96
	Low score	84
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, JACKSONVILLE

Bomb Release Units and Bomb Arming Controls and Units

Identification Code: CNATT-J72
Bomb arming and release units, operation, purposes, and specifications.
Prepared for: AO Class A Munitions School, Phase IV, students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	64
	Low score	40
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, JACKSONVILLE

ORDNANCE

Bomb Trucks, Skids, and Their Adapters
Identification Code: None. Use title.
The general characteristics of the Aero 12C, Aero 16B, Aero 21A skids, and the Aero 33C and D bomb trucks. It also teaches the adapters used with each one and its use.
Prepared for: AO Class A Munitions School, Phase IV, students
Type of Program: Linear
Average Time Required: 1 hour and 15 minutes

Validation Data:	Number of learners tested	90
	Low score	66
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, JACKSONVILLE

General Purpose and Demolition Bombs
Identification Code: CNATT-J37
General purpose and demolition bombs; their components and fuzes used. Types of suspension and targets are also covered.
Prepared for: AO Class A Munitions School, Phase IV, students
Type of Program: Linear
Average Time Required: 35 minutes

Validation Data:	Number of learners tested	65
	Low score	80
	High score	100
	Percentage who scored 90% or higher	95

Developer: NATTC, NAS, JACKSONVILLE

Boresight Kit MK 3 MOD 0
Identification Code: CNATT-J56
The components, purpose, type of guns with which it can be used, and safety precautions.
Prepared for: AO Class A Munitions School, Phase IV, students
Type of Program: Linear
Average Time Required: 25 minutes

Validation Data:	Number of learners tested	94
	Low score	55
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, JACKSONVILLE

Aircraft Chemical Tank MK 12 MOD 0
Identification Code: CNATT-J55
The Aero 12 and Aero 14 Tanks; their uses, characteristics, and safety in handling. This is a two-part program covering the Aero 14 B Airborne Spray Tank.
Prepared for: AO Class A Munitions School, Phase IV, students
Type of Program: Linear
Average Time Required: 1 hour and 15 minutes

Validation Data:	Number of learners tested	93
	Low score	85
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, JACKSONVILLE

ORDNANCE

Explosive Safety Precautions
Identification Code: H-611-04
Designed to teach proper procedures for handling, transporting, and storage of explosives ashore.
Prepared for: Enlisted and Junior Officers
Type of Program: Linear
Average Time Required: 53 minutes

Validation Data:	Number of learners tested	40
	Low score	87
	High score	100
	Percentage who scored 90% or higher	95

Developer: NAVPHIBSCOL, CORONADO

Electric Bomb Fuze M990
Identification Code: CNATT-N414
Describes the M990, states the purpose of the fuze, gives the arming time of the fuze, gives the weapons that use the fuze, states how the fuze is armed, and covers how the pilot can change the arming time of the fuze.
Prepared for: NAMTRADETS students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	50
	Low score	50
	High score	100
	Percentage who scored 90% or higher	94

Developer: NAMTRAGRU, NAS, MEMPHIS

Mechanical Nose Fuze, M904E2
Identification Code: CNATT-N390
Contains a description of the fuze showing how the fuze functions. It covers the installation of the fuze in a bomb, how the arming wire is installed, how to remove the fuze from a bomb, the functioning times and arming times of the M904E2, and the delay element used in the M904E2.
Prepared for: NAMTRADETS, Class C, students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	48
	Low score	82
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

Mechanical Time Fuze, M907
Identification Code: CNATT-N419
Contains a description of the M907 mechanical time fuze showing how it functions. It covers the installation of the fuze in a bomb, the arming time of the fuze, the weapons that can use the fuze, and the names used with the fuze.
Prepared for: NAMTRADETS, Class C, students
Type of Program: Linear
Average Time Required: 25 minutes

Validation Data:	Number of learners tested	55
	Low score	60
	High score	100
	Percentage who scored 90% or higher	91

Developer: NAMTRAGRU, NAS, MEMPHIS

ORDNANCE

Introduction and Nomenclature to the Mk 2 Mod 1 Gun Loader
Identification Code: None. Use title.
Covers: description and functions of the Mk 2 Mod 1 gun loader; nomenclature of parts of the gun loader; components of the loader and their location.
Prepared for: AO Class A School students
Type of Program: Linear
Average Time Required: 27 minutes
Validation Data:

Number of learners tested	120
Low score	44
High score	100
Percentage who scored 90% or higher	95

Developer: NATTC, NAS, JACKSONVILLE

Introduction to the MK 4 MOD 0 Gun Pod
Identification Code: None. Use title.
Covers the primary and secondary application, why the gun pod was accepted for use, the physical characteristics, the six sub-systems used, gases used to operate the MK 11 MOD 0 gun, how it is fed and operated, and the three functions of the MK 2 MOD 1 loader.
Prepared for: AO Class A School students
Type of Program: Linear
Average Time Required: 30 minutes
Validation Data:

Number of learners tested	84
Low score	74
High score	100
Percentage who scored 90% or higher	93

Developer: NATTC, NAS, JACKSONVILLE

Aircraft Mines and Torpedoes
Identification Code: CNATT-J48
Aircraft mine and torpedo classification; their type and method of function. Basic safety precaution concerning aircraft mines and torpedoes are also covered.
Prepared for: AO Class A Munitions School, Phase IV, students
Type of Program: Linear
Average Time Required: 30 minutes
Validation Data:

Number of learners tested	80
Low score	82
High score	100
Percentage who scored 90% or higher	95

Developer: NATTC, NAS, JACKSONVILLE

Safety Precautions and Emergency Considerations of Nuclear Depth Bombs Aboard ASW Aircraft (A Confidential--Restricted Data Program)
Identification Code: Attn: Code 60 (use title)
Includes potential hazards during nuclear weapon loading and delivery procedures, and as a result of aircraft emergencies, includes accident or malfunctions and suggested emergency procedures. Security requirements when employing nuclear depth bombs on ASW Aircraft are also covered.
Prepared for: ASW Pilots, Naval Flight Officer, Air Intelligence Officers
Type of Program: Linear
Average Time Required: 45 minutes
Validation Data:

Number of learners tested	65
Low score	88
High score	100
Percentage who scored 90% or higher	92

Developer: NUCWPNSTRACENPAC, NORTH ISLAND, SAN DIEGO

ORDNANCE

Programmed Text for Peacetime Safety Rules (ASW Aircraft) A Confidential--Restricted Data Program)
Identification Code: Attn: Code 60 (use title)
The scope of the program covers JCS Peacetime Safety Rules, and their application to various ASW Aircraft weapon systems.
Prepared for: Air Intelligence Officers, ASW Pilots, Naval Flight Officers
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	28
	Low score	90
	High score	100
	Percentage who scored 90% or higher	100

Developer: NUCWPNSTRACENPAC, NORTH ISLAND, SAN DIEGO

Tow Targets and Cables
Identification Code: CNATT-J68
Terminology, classes, and methods of launching tow targets. Types of tow targets and uses of tow targets in naval aviation.
Prepared for: AO Class A Munitions School Phase IV, students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	72
	Low score	63
	High score	100
	Percentage who scored 90% or higher	97

Developer: NATTC, NAS, JACKSONVILLE

Associate Tow Target Equipment
Identification Code: CNATT-J49
The associated equipment used with different types of towing operations.
Prepared for: AO Class A Munitions School, Phase IV, students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	104
	Low score	55
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, JACKSONVILLE

ORDNANCE (SMALL ARMS)

Machine Gun M60, 7.62MM
Identification Code: None. Use title.
This Audio-Visual teaches the introduction, nomenclature, function of parts, and cycle of operation of the M60 machine gun.
Prepared for: AO Class A School students
Type of Program: Audio-Visual
Average Time Required: 59 minutes

Validation Data:	Number of learners tested	66
	Low score	65
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, JACKSONVILLE

ORDNANCE (SMALL ARMS)

Introduction and Nomenclature of Revolver Caliber .38 Special
Identification Code: None. Use title.
The first half of the program covers general characteristics, safety features, and safety precautions to be used during disassembly. The second half covers a breakdown of the weapon with nomenclature of the illustrated parts.
Prepared for: AO Class A School
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:		
	Number of learners tested	81
	Low score	76
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, JACKSONVILLE

Introduction and Nomenclature of the Caliber .45 Automatic Pistol
Identification Code: None. Use title.
The first half of the program deals with general characteristics, and safety precautions. The second half covers nomenclature of the major parts of the weapon.
Prepared for: AO Class A School students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:		
	Number of learners tested	60
	Low score	74
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, JACKSONVILLE

Introduction to the Semi-Automatic Caliber .45 Pistol
Identification Code: F-000-010-007
Designed to introduce the trainee to the caliber .45 pistol used by the U. S. Navy. This program covers basic construction, safety features, safety precautions, and the proper procedure to be used when firing the caliber .45 pistol on a pistol range.
Prepared for: Basic Enlisted Submarine School, Class A, students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:		
	Number of learners tested	67
	Low score	70
	High score	100
	Percentage who scored 90% or higher	91

Developer: NAVSUBSCOL, NAVSUBASE, GROTON

Introduction and Nomenclature of the U. S. Rifle 5.56-MM M16 and M16A1
Identification Code: None. Use title.
Covers general characteristics and nomenclature of the U. S. Rifle 5.56-MM M16 and M16A1. Illustrates component parts and describes their function. States the reason for the adoption of the M16 and denotes the difference between the M16 and the M16A1.
Prepared for: AO Class A School, Phase III, students
Type of Program: Linear
Average Time Required: 26 minutes

Validation Data:		
	Number of learners tested	93
	Low score	86
	High score	100
	Percentage who scored 90% or higher	95

Developer: NATTC, NAS, JACKSONVILLE

ORDNANCE (SMALL ARMS)

Small Arms Terminology and Basic Safety
Identification Code: None. Use title.
Covers terminology common to all small arms used in the Navy in relation to nomenclature and definitions of cycle of operations. It also stresses safety precautions to be observed in small arms.
Prepared for: AO Class A School, Phase III, students
Type of Program: Linear
Average Time Required: 40 minutes

Validation Data:	Number of learners tested	86
	Low score	76
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, JACKSONVILLE

PERSONNEL

Duty Assignment Options
Identification Code: NavPers 94060-1
Contains purpose, eligibility requirements, available benefits, and application procedures for a Duty Assignment Option as contained in Chapter 27, Enlisted Transfer Manual.
Prepared for: YN/PN Class A School students
Type of Program: Linear
Average Time Required: 45 minutes
Validation Data:

Number of learners tested	72
Low score	73
High score	100
Percentage who scored 90% or higher	92

Developer: BUPERS (PERS-C21)

Leave and Liberty
Identification Code: NavPers 94033
Contains authority and limitations of liberty. Authority, control, definitions, computation, and disposition of leave. Utilization of forms required in administration of leave.
Prepared for: YN/PN Class A School students
Type of Program: Linear
Average Time Required: 6 hours
Validation Data:

Number of learners tested	69
Low score	81.6
High score	100
Percentage who scored 90% or higher	87

Developer: BUPERS (PERS-C21)

PHOTOGRAPHY

The Basic Camera
Identification Code: CNATT-P17 PAT
Compares the components of a basic camera to those of a human eye. States functions of the components of a basic camera and explains how an image is formed in a camera and can be recorded.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour
Validation Data:

Number of learners tested	98
Low score	80
High score	100
Percentage who scored 90% or higher	92

Developer: NATTU, NAS, PENSACOLA

Chemical Mixing and Storage
Identification Code: CNATT-P5-PAT
Explains recommended procedures for mixing, handling, and storage of photographic chemicals.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 45 minutes
Validation Data:

Number of learners tested	77
Low score	80
High score	100
Percentage who scored 90% or higher	97

Developer: NATTU, NAS, PENSACOLA

PHOTOGRAPHY

Introduction to Color Photography
Identification Code: CNATT-P4-PAT
States the advantages, cost disadvantage, uses, construction, and types of color film.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 30 minutes

Validation Data:	Number of learners tested	79
	Low score	87
	High score	100
	Percentage who scored 90% or higher	97

Developer: NATTU, NAS, PENSACOLA

Contact Printing
Identification Code: CNATT-P2-PAT
Describes the basic contact printer and its proper operation procedures which result in contact prints.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	80
	Low score	80
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTU, NAS, PENSACOLA

Exposure Controls and Factors
Identification Code: Part A - CNATT-P18 PAT
Part B - CNATT-P19 PAT
Introduces the factors to be considered when determining the correct exposure to be used when taking photographs under various daylight sky conditions.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 4 hours

Validation Data:	Number of learners tested	132
	Low score	70
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTU, NAS, PENSACOLA

Theory of Motion Picture Photography
Identification Code: CNATT-P15 PAT
Explains how a series of still pictures can be used to create illusion of motion. Describes basic operations of cameras used to record and projectors used to project "motion" pictures. Covers relation between rate of picture taking and film projection in producing slow, normal or fast motion on the screen.
Prepared for: Photographer's Mate School, Class A, school
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	78
	Low score	70
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTU, NAS, PENSACOLA

PHOTOGRAPHY

Photographic Files and Records
Identification Code: CNATT-P3 PAT
Describes types, purposes and content, and proper methods of filing, recording, and forwarding photographic logs.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour
Validation Data:

Number of learners tested	86
Low score	88
High score	100
Percentage who scored 90% or higher	97

Developer: NATTU, NAS, PENSACOLA

Photographic Filters
Identification Code: CNATT-P21 PAT
Describes and states purpose and function of photographic filters and their applicable uses.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour
Validation Data:

Number of learners tested	67
Low score	70
High score	100
Percentage who scored 90% or higher	90

Developer: NATTU, NAS, PENSACOLA

Positive Materials
Identification Code: CNATT-P10 PAT
Describes various types of light sensitive materials on which a positive image can be recorded.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour
Validation Data:

Number of learners tested	71
Low score	60
High score	100
Percentage who scored 90% or higher	93

Developer: NATTU, NAS, PENSACOLA

Projection Printing
Identification Code: CNATT-P6 PAT
Covers components, functions, and basic operational procedures in projection printing.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 35 minutes
Validation Data:

Number of learners tested	50
Low score	76
High score	100
Percentage who scored 90% or higher	90

Developer: NATTU, NAS, PENSACOLA

PHOTOGRAPHY

Single-Flash Photography
Identification Code: CNATT-P12 PAT
Covers four classes of flashbulbs, their characteristics and peaking time, purposes of synchronizers, uses of the Graflite flashgun, and probable flashbulb accidents and causes; explains the correct f/stop for flash photography.
Prepared for: Photographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 30 minutes

Validation Data:	Number of learners tested	158
	Low score	70
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTU, NAS, PENSACOLA

PHYSICS

The Adiabatic Process
Identification Code: None. Use title.
Explains the laws associated with and the processes involved in the atmospheric adiabatic process.
Prepared for: AG B School students
Type of Program: Linear
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	48
	Low score	70
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

The Atmosphere
Identification Code: None. Use title.
Describes the atmosphere and how it is measured. Basic construction and uses of the measuring devices used to measure the atmosphere. Describes humidity and relative humidity.
Prepared for: AO Class A School students
Type of Program: Linear
Average Time Required: 52 minutes

Validation Data:	Number of learners tested	92
	Low score	80
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, JACKSONVILLE

Physics of the Atmosphere
Identification Code: CNABT-P-607X PAT
Lists the main component gases of the atmosphere and the percentages of each. Explains how atmospheric pressure and temperature vary with altitude along with the effects upon aircrew members. Lists the five gas laws and the significance of each.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 34 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

PHYSICS

Centripetal Accelerations
Identification Code: CNABT-P-638X PAT
Centripetal and centrifugal forces and formulas. Use and effects of centrifugal force in aviation.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 16 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Compound Machines, TD-1-7
Identification Code: CNATT-M313 PAT
Definition and use of compound machines. Mathematical computations associated with the use of compound machines.
Prepared for: TRADEVMAN School, Class A, students
Type of Program: Linear
Average Time Required: 32 minutes

Validation Data:	Number of learners tested	39
	Low score	50
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Diving Physics
Identification Code: H-611-08
A book covering essential knowledge for the diver including the properties of matter and the effects of pressure, a basic knowledge of physics in relation to diving.
Prepared for: Enlisted and Junior Officers
Type of Program: Linear and Looping
Average Time Required: 2 hours and 15 minutes

Validation Data:	Number of learners tested	125
	Low score	70
	High score	100
	Percentage who scored 90% or higher	92

Developer: NAVPHIBSCOL, CORONADO

Energy and the First Law of Thermodynamics, Part I
Identification Code: None. Use title.
Defines the various kinds of energy and explains energy transformations dealing with the heat and work involved in the study of thermodynamics.
Prepared for: Class "A" School, Propulsion Engineering, students
Type of Program: Linear-Discrimination
Average Time Required: 52 minutes

Validation Data:	Number of learners tested:	63
	Low score	80
	High score	100
	Percentage who scored 90% or higher	92.3

Developer: BUPERS (PERS-C21)

PHYSICS

Fluids, TD-I-4
Identification Code: CNATT-M406 PAT
Teaches how to compute the force, pressure and buoyant force exerted by a liquid. Teaches how to compute the weight density and specific gravity of a substance. Teaches how to compute atmospheric pressure, and how to use Boyle's law, Charles' law and the general gas law. Teach Bernoulli's principle and the meaning of viscosity.
Prepared for: TRADEVMAN School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 42 minutes

Validation Data:	Number of learners tested	30
	Low score	72
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, MEMPHIS

Force, TD-I-1
Identification Code: CNATT-M431 PAT
Teaches the properties of force in physics, including the computation of resultant force magnitude and bearing from two forces acting at 90° to one another and at angles of less than 90° to one another. Teaches the states of equilibrium and the resolution of force vectors. Teaches parallel forces, torque, equilibrium force, couples, effects of gravity and friction.
Prepared for: TRADEVMAN School, Class A, students
Type of Program: Linear
Average Time Required: 2 hours and 46 minutes

Validation Data:	Number of learners tested	31
	Low score	86
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, MEMPHIS

Gravity (Physics)
Identification Code: CNABT-P-653X PAT
Newton's Law of Universal Gravitation. The pound as a gravitational (weight) unit. Problems dealing with weight, mass, and gravity. Definition of "G" force.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 22 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Gyros, Physics
Identification Code: CNABT-P-737X PAT
The gyroscopic properties of a spinning object and the gyroscopic properties used in each aircraft gyro instrument.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 15 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

PHYSICS

The Gyroscope and Gyroscopic Properties
Identification Code: CNATT-J13 PAT
Provides instruction on the properties of a spinning mass. Covers rigidity, precession, mechanical drift, and apparent rotation.
Prepared for: Class A School students
Type of Program: Linear-Adjunct
Average Time Required: 1 hour

Validation Data:	Number of learners tested	112
	Low score	75
	High score	100
	Percentage who scored 90% or higher	91.98

Developer: NATTC, NAS, JACKSONVILLE

Heat, TD-I-5
Identification Code: CNATT-M415 PAT
Defines heat, temperature, and systems of measurement. Teaches methods of distribution, expansion, and change of state. Explains general gas laws. Explains thermodynamic processes.
Prepared for: TRADEVMAN School, Class A, students
Type of Program: Linear
Average Time Required: 2 hours and 10 minutes

Validation Data:	Number of learners tested	30
	Low score	82
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, MEMPHIS

Heat, Physics
Identification Code: CNABT-P-707X PAT
Definitions of thermal energy, heat, temperature, absolute zero, and specific heat. The four systems of measuring temperature. Problems using the equation relating heat and change in temperature.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 23 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Heat and Temperature
Identification Code: CNATT-L11 PAT
Definitions. Conversion of temperature scales. Processes of heat transfer. Change of state.
Prepared for: AG(A) School students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 42 minutes

Validation Data:	Number of learners tested	51
	Low score	85
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, LAKEHURST

PHYSICS

Gas Laws
Identification Code: CNATT-L19 PAT
Relationship between vapor pressure, temperature, atmospheric pressure, and water vapor content. Definition, formula and application of Charles' Law, Boyle's Law, Boyle's Corollary Law, and Equation of State. Substituting numerical values in selected formulas for Dalton's Law, Charles' Law, Boyle's Law, and Equation of State.
Prepared for: Aerographer's Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 35 minutes

Validation Data:	Number of learners tested	54
	Low score	36
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, LAKEHURST

Light, TD-I-9
Identification Code: CNATT-M503 PAT
Defines light and teaches the properties and characteristics of light. Teaches types of substances, types of images, types of reflection, and types of mirrors involved in the propagation of light. Teaches cause of, laws governing, and conditions necessary for refraction.
Prepared for: TRADEVMAN School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 3 minutes

Validation Data:	Number of learners tested	40
	Low score	70
	High score	100
	Percentage who scored 90% or higher	95

Developer: NATTC, NAS, MEMPHIS

Basic Machines and Applications, TD-I-6
Identification Code: CNATT-M310 PAT
Various Types of basic machines. Mathematical computations associated with the use of basic machines.
Prepared for: TRADEVMAN School, Class A, students
Type of Program: Linear
Average Time Required: 54 minutes

Validation Data:	Number of learners tested	31
	Low score	45
	High score	100
	Percentage who scored 90% or higher	90.3

Developer: NATTC, NAS, MEMPHIS

Physics, Matter
Identification Code: None. Use title.
Defines matter, identifies the three states of matter. Describes the terms volume, mass, universal attraction, weight, density, inertia, porisity, and impetrability as they pertain to matter. Describes element compound, molecule and atom.
Prepared for: AO Class A School students
Type of Program: Linear
Average Time Required: 43 minutes

Validation Data:	Number of learners tested	74
	Low score	72
	High score	100
	Percentage who scored 90% or higher	93

Developer: NATTC, NAS, JACKSONVILLE

PHYSICS

Physics, Matter
Identification Code: CNATT-L14 PAT
Definition. Identification of states of matter.
Prepared for: AG (A) School, students
Type of Program: Linear-Branching
Average Time Required: 42 minutes

Validation Data:	Number of learners tested	218
	Low score	52
	High score	100
	Percentage who scored 83% or higher	95
	Six objectives in program with each weighted as 17% of total score.	

Developer: NATTC, NAS, LAKEHURST

Motion
Identification Code: CNABT-P-619X PAT
A study of the six basic motion formulas.
Prepared for: Naval Aviator students/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 18 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Motion, TD-I-2
Identification Code: CNATT-M339 PAT
Covers motion in terms of speed, velocity, distance and displacement. Provides application of linear and angular motion formulas.
Prepared for: TRADEVMAN School, Class A, students
Type of Program: Linear
Average Time Required: 2 hours and 30 minutes

Validation Data:	Number of learners tested	34
	Low score	110
	High score	200
	Percentage who scored 90% or higher	91.4

Developer: NATTC, NAS, MEMPHIS

Physics, Motion
Identification Code: CNATT-L2 PAT
Definitions of speed, velocity and acceleration. Solutions of problems. Newton's Laws of Motion. Centripetal and centrifugal forces.
Prepared for: AG (A) School students
Type of Program: Linear-Branching
Average Time Required: 2 hours and 34 minutes

Validation Data:	Number of learners tested	75
	Low score	60
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

PHYSICS

Optics
Identification Code: None. Use title.
Covers the general characteristics of light, types of light and their sources, the reflection and refraction of light, gives a brief description of filters, mirrors, lenses and a simple prism and its basic use.
Prepared for: AO Class A School students
Type of Program: Linear
Average Time Required: 46 minutes

Validation Data:	Number of learners tested	87
	Low score	68
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, JACKSONVILLE

Physics
Identification Code: CNABT-P-604 PAT
To apply the formula for pressure to various hydraulic situations. To use the universal hydraulic formula to solve problems for area, force, piston radius, diameter, and displacement.
Prepared for: Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 8 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Physics
Identification Code: CNABT-P-620X PAT
Definitions of terms; units of length, mass, time in both the English and metric unit systems. Conversion from one unit system to the other. Solution of density and specific gravity problems.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 19 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Physics, Heat Transfer, and Change of State
Identification Code: CNABT-P-697X PAT
The three methods of heat transfer. The six change-of-state processes. Values of heat of fusion and heat of vaporization in both the English and metric systems and related problems.
Prepared for: Student Naval Aviator/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 24 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

PHYSICS

Physics, Pneumatic Devices
Identification Code: None. Use title.
Gives the two laws that apply to pneumatic devices, describes Boyle's Law and Pascal's Law. Gives applications to pneumatic devices. Defines compressed air, describes the different types of air compressors and the characteristics and uses of each type. Identifies the type of air compressor most commonly used by all branches of the military, and list the four uses of pneumatics.
Prepared for: AO Class A School students
Type of Program: Linear
Average Time Required: 32 minutes

Validation Data:	Number of learners tested	65
	Low score	80
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, JACKSONVILLE

Sound, Physics
Identification Code: CNABT-P-706X PAT
Fundamentals of sound propagation and transmission, waveform diagrams, speed of sound waves, Doppler effect, and Mach Number.
Prepared for: Student Naval Aviators/Aviation Officer Candidates
Type of Program: Linear
Average Time Required: 20 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

Wave Motion and Sound, TD-I-8
Identification Code: CNATT-M414 PAT
Compare longitudinal and transverse waves. Defines the terms frequency and wavelength. Teaches the computation of the velocity of sound in air and in water, and the wavelength of sound. Teaches resonance, refraction, pitch, loudness and doppler effect.
Prepared for: TRADEVMAN School, Class A, students
Type of Program: Linear
Average Time Required: 48 minutes

Validation Data:	Number of learners tested	30
	Low score	92
	High score	100
	Percentage who scored 90% or higher	100

Developer: NATTC, NAS, MEMPHIS

Work, Power and Energy, TD-I-3
Identification Code: CNATT-M365 PAT
Provides a basic understanding of work, power and energy. Provides a basic understanding of the relationship between mass and energy.
Prepared for: TRADEVMAN School, Class A, students
Type of Program: Linear
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	35
	Low score	50
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

PHYSICS

Work, Power and Energy (Mechanical) - AE
Identification Code: CNATT-P-5272 PAT
Provides instruction on kinetic and potential energy, on work and power, and the unit of measurement that applies to work and power.
Prepared for: Class A School students
Type of Program: Linear-Branching
Average Time Required: 1 hour and 10 minutes

Validation Data:	Number of learners tested	87
	Low score	85
	High score	100
	Percentage who scored 90% or higher	94.2

Developer: NATTC, NAS, JACKSONVILLE

POWER TRANSFER EQUIPMENT

Introduction to Power Transfer Equipment
Identification Code: None. Use title.
Explains the types of steam turbines and their principles of operation.
Prepared for: Class A School students
Type of Program: Discrimination
Average Time Required: 2 hours

Validation Data:	Number of learners tested	82
	Low score	76
	High score	100
	Percentage who scored 90% or higher	87

Developer: BUPERS (PERS-C21)

PROGRAMMED INSTRUCTION

Programmed Instruction
Identification Code: CNATT-P-5009
Presents the basic principles of programming. Teaches the user to determine the method of programming by frame analysis. The technique of administering a program is taught by the SPA method.
Prepared for: Instructor Training School, Class "C", students
Type of Program: Linear-Branching
Average Time Required: 50 minutes

Validation Data:	Number of learners tested	48
	Low score	46
	High score	100
	Percentage who scored 90% or higher	91.7

Developer: NATTC, NAS, MEMPHIS

PROGRAMMED INSTRUCTION

An Introduction to Programmed Instruction
Identification Code: None. Use title.
Attempts to inform the student about programmed instruction by having him actively participate in a self-study text. Upon completion of the program, the student will be able to state in his own words the: 1. Five teaching principles employed in programmed instruction; 2. Meaning of the technical terms associated with programmed instruction; 3. Two basic types of programs and the characteristics of each; 4. Criterion level established for program acceptance.
Prepared for: All Fleet personnel
Type of Program: Linear-Branching
Average Time Required: 35 minutes

Validation Data:		
	Number of learners tested	30
	Low score	73
	High score	100
	Percentage who scored 90% or higher	90

Developer: TRALANT, NORFOLK, VIRGINIA

PUBLICATIONS

Using Maintenance Publications
Identification Code: None. Use title.
Teaches the trainee to use the Handbook of Service Instructions, the Handbook of Overhaul Instructions, and the Illustrated Parts Breakdown.
Prepared for: ADJ A students
Type of Program: Linear
Average Time Required: 2 hours and 30 minutes

Validation Data:		
	Number of learners tested	50
	Low score	92
	High score	100
	Percentage who scored 90% or higher	100

Developer: NATTC, NAS, MEMPHIS

Naval Warfare Publications, Fleet Air Operations
Identification Code: CNABT-P-616 PAT
Discusses the following facts about NWP series: Purpose, the difference between NWP and NWIP; various allied and fleet publications; four groups by title; means of distribution; how changes are made and information required to pass a criterion examination.
Prepared for: Basic Naval Aviation Officers School, student NFO's
Type of Program: Linear
Average Time Required: 17 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

RADAR

Anomalous Radar Propagation - Part 1
Identification Code: FAAWTC SDIEGO PI-7
Identification and explanation of variations in radar refraction caused by variations of atmospheric refraction conditions.
Prepared for: Naval officer and enlisted CIC Team trainees.
Type of Program: Linear
Average Time Required: 1 hour and 10 minutes
Validation Data: Number of learners tested 85
Low score 45
High score 100
Percentage who scored 90% or higher 83.6
Developer: FAAWTC, SAN DIEGO

REFRIGERATION

Basic Refrigeration
Identification Code: None. Use title.
To introduce the trainee at Basic Enlisted Submarine School to the refrigeration equipment used aboard submarines. When the trainee completes this lesson he will be able to state the purpose of refrigeration, define the physics of heat with respect to the types of heat, heat flow, heat transfer, and the measurement of heat. The trainee will also be able to list the basic refrigeration system's components and explain the purpose of each.
Prepared for: Basic Enlisted Submarine School students
Type of Program: Linear
Average Time Required: 1 hour
Validation Data: Number of learners tested 209
Low score 25
High score 100
Percentage who scored 90% or higher 77.5
Developer: NAVSUBSCOL, NAVSUBASE, GROTON

RELATIVE MOTION

Introduction to Relative Motion
Identification Code: CNABT-P-644X PAT
Relative motion and how to solve simple intercept problems. Five factors that a navigator must know in order to solve the intercept. Concepts include direction of relative motion, miles of relative motion, and speed of relative motion.
Prepared for: Naval Aviator students
Type of Program: Linear
Average Time Required: 27 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

RESPIRATION AND CIRCULATION

Respiration and Circulation
Identification Code: CNABT-P-611X PAT
Describes the anatomy and physiology of the process of respiration and circulation along with related problems.
Prepared for: Naval Aviator students
Type of Program: 30 minutes
Average Time Required: 30 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

ROTOR SYSTEM

Main Rotor System, H-34
Identification Code: CNABT-P-719X PAT
Separate main rotor head components into four major areas, describe and explain function of blade limiting devices, describe main rotor blade construction, and explain how main rotor system controls functions.
Prepared for: Helicopter Flight students
Type of Program: Branching
Average Time Required: 32-35 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

RULES OF THE ROAD

Fog Signals
Identification Code: FAAWTC PI-5
Identification of correct fog signals to be used by vessels in both inland and international waters.
Prepared for: CIC Team Training--Naval officers and enlisted men
Type of Program: Linear
Average Time Required: 16 minutes

Validation Data:	Number of learners tested	46
	Low score	60
	High score	100
	Percentage who scored 90% or higher	73

Developer: FAAWTC, SAN DIEGO

Rules of the Road
Identification Code: FAAWTC SD PI-2
Covers meeting, crossing, and overtaking situations in inland and international waters; required maneuvers and their corresponding whistle signals; techniques for interpreting Dead Reckoning Tracer (DRT), radarscope, and maneuvering board.
Prepared for: CIC Watch Officer and CIC Team Training
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	260
	Low score	84
	High score	100
	Percentage who scored 90% or higher	81.3

Developer: FAAWTC, SAN DIEGO

Rules of the Road
Identification Code: None. Use title.
(This program is a modification of the FAAWTC SD program listed above)
Prepared for: OOD Students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	260
	Low score	84
	High score	100
	Percentage who scored 90% or higher	81.3

Developer: FLETRACEN, SAN DIEGO

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SEAMANSHIP

Reorientation of Bentline Screens (A Confidential Program)
Identification Code: FAAWTC SDIEGO (PI-04A)
Stationing and reorientation of bentline screens by Methods Coke and Ginger. Stationing and reorientation of pouncers.
Prepared for: Naval officer and enlisted CIC Team trainees
Type of Program: Linear
Average Time Required: 48 minutes

Validation Data:	Number of learners tested	74
	Low score	73
	High score	100
	Percentage who scored 90% or higher	83

Developer: FAAWTC, SAN DIEGO

SEAMANSHIP

Semaphore (Revised 8/68)
Identification Code: NAVPHIBSCOL 4-3
Using illustrations of the semaphore alphabet positions, the student recognizes and identifies all 26 letters plus FRONT and NUMERALS. The program teaches by combining three methods of learning semaphore: The letter sequence, position sequence, and system of opposites, with memory aids added when helpful. An optional ten-minute message using all positions, which may be deciphered by the student is included at the end. Reported time includes this message.
Prepared for: UDTR Students
Type of Program: Linear
Average Time Required: 56 minutes

Validation Data:	Number of learners tested	78
	Low score	60
	High score	100
	Percentage who scored 90% or higher	91

Developer: NAVPHIBSCOL, LITTLE CREEK

SECURITY

Security of Classified Information
Identification Code: CNATT-M396 PAT
Discusses the different types of security classifications and what to do in case a violation is discovered. Describes how to prepare a piece of classified correspondence for mailing.
Prepared for: AK A and MARAK C Schools students
Type of Program: Linear
Average Time Required: 37 minutes

Validation Data:	Number of learners tested	100
	Low score	80
	High score	100
	Percentage who scored 90% or higher	97

Developer: NATTC, NAS, MEMPHIS

Security Regulations, Weapons Systems Fundamentals
Identification Code: CNABT-P-721X PAT
Covers every aspect of security and the disposition of classified matter.
Prepared for: Student Naval Aviators
Type of Program: Linear
Average Time Required: 12 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

SIGNAL RESPONSE

Signal Response
Identification Code: CNABT-P-609 PAT
Covers the following situations in a mirror landing approach: High; High-in-close; Low; Low-in-close; Fast; Power; Attitude; Line-up; Cut; and Wave-off.
Prepared for: Carrier Qualification Phase students
Type of Program: Signal Response
Average Time Required: 1 hour and 30 minutes
Validation Data: Not available
Developer: NABATRA, NAS, PENSACOLA

SOCIAL/POLITICAL

CO TUONG
Identification Code: H-611-12
The objective of the program is not only to teach the rules of oriental chess, but also to give the student a bridge by which he cam become active in Asian Society.
Prepared for: Officers and enlisted (E-3 through O-5)
Type of Program: Linear
Average Time Required: Not available
Validation Data: Not available
Developer: NAVPHIBSCOL, CORONADO

SONAR

Sound in Water
Identification Code: WEPS P.I. #1
Designed to familiarize personnel with characteristics of sound (noise) and the reaction of sound (sonar transmission) when introduced into water of various temperatures, pressures, or salinity. The latter part deals with doppler: definition, determination, and use in naval sonar. This program may be of general interest to potential sonar technicians and ASW officers prior to, or during, basic ASW training.
Prepared for: Naval Destroyer School students
Type of Program: Linear-Intrinsic
Average Time Required: 45 minutes

Validation Data:	Number of learners tested	85
	Low score	32
	High score	40
	Percentage who scored 90% or higher	95

Developer: NAVDESCOL, NEWPORT

SONAR CLASSIFICATION

ASPECT Trace Interpretation and Equipment Operation (A Confidential Program)
Identification Code: J-2G/210-522
The ASPECT Controls, including their functions and operation. Classification and operating procedures using the ASPECT equipment. Correct classification techniques utilizing the ASPECT Equipment.
Prepared for: Sonar Technicians of Operating Forces
Type of Program: Linear-Branching
Average Time Required: 10 hours

Validation Data:	Number of learners tested	71
	Low score	40
	High score	99.26
	Percentage who scored 90% or higher	29.58

Developer: FLETRACEN, NORFOLK

STAFF STUDY

The Staff Study: A Self-Instructional Lesson
Identification Code: NavPers 94407
Designed to teach the staff study process from problem definition to the written report. After completion of the program, the student should be assigned a staff study problem to measure the real effectiveness of the program.
Prepared for: Naval War College students
Type of Program: Linear
Average Time Required: 2 hours and 6 minutes (Range: 1 hour to 3½ hours)
Validation Data:

Number of learners tested	49
Low score	70
High score	100
Percentage who scored 85% or higher	85

Developer: BUPERS (PERS-C31)

STORAGE

Storage Aids and Material--Handling Equipment
Identification Code: CNATT-M465 PAT
Describes and illustrates the most common storage aids and material handling equipment used in the Navy.
Prepared for: AK A students
Type of Program: Linear
Average Time Required: 35 minutes
Validation Data:

Number of learners tested	51
Low score	82
High score	100
Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

SUBMARINE TRAINING

Buoyancy and Stability
Identification Code: F-000-010-03
Designed to teach the trainee at Basic Enlisted Submarine School: The principles of buoyancy; The effects of sea water pressure on buoyancy, The special features of submarine construction and elementary operating principles of a submarine; Factors affecting submarine stability.
Prepared for: Basic Enlisted Submarine School, Class A, students
Type of Program: Linear
Average Time Required: 50 minutes
Validation Data:

Number of learners tested	42
Low score	80
High score	100
Percentage who scored 90% or higher	90.47

Developer: NAVSUBSCOL, NAVSUBASE, GROTON

SUPPORTING ARMS

Part I - The Artillery Call for Fire
Part II - Artillery Spotting and Adjusting
Part III - Naval Gunfire
Part IV - Close Air Support

Identification Code: SA-201

Designed to give the Marine the capability of employing Artillery, Naval Gunfire, or Close Air Support should he find himself in need of one of these supporting arms when trained forward observers or air controllers or spotters are not available. The student will be able to request fire support containing the essential elements of information required by each of the three supporting arms in the language and format peculiar to each. He will also be able to apply the principles of observed fire procedures concerning the adjusting of fire onto the target.

Prepared for: Marines E-1 through O-3

Type of Program: Linear

Average Time Required: 4 hours and 30 minutes (Designed to be given in three periods of two hours each.)

Validation Data:	Number of learners tested	200
	Low score	Incomplete
	High score	100
	Percentage who scored 85% or higher	80

Developer: LANFORTRACOMLANT, NAVPHIBASE, LITTLE CREEK

Naval Gunfire Call for Fire, Part 1

Identification Code: H-611-11

Text to train and guide spotters of Naval Gunfire to: Quickly and Accurately Transmit a NAVAL GUNFIRE Call for Fire.

Prepared for: Officers and enlisted (E-3 through O-3)

Type of Program: Linear

Average Time Required: 2 hours and 30 minutes

Validation Data:	Number of learners tested	88
	Low score	65
	High score	100
	Percentage who scored 90% or higher	80

Developer: NAVPHIBSCOL, CORONADO

Capabilities and Limitations of Naval Gunfire Support

Identification Code: NAVPHIBSCOL 3-3

Will teach the student the capabilities and limitations of Naval Gunfire Support and the recommended procedure to overcome or minimize limitations in the use of ships and naval guns.

Prepared for: PHIBSCOL students E-2 through O-4

Type of Program: Linear

Average Time Required: 50 minutes

Validation Data:	Number of learners tested	61
	Low score	84
	High score	100
	Percentage who scored 90% or higher	94

Developer: NAVPHIBSCOL, LITTLE CREEK

SUPPLY SYSTEM

Federal Supply System
Identification Code: None. Use title.
Covers the purpose of the Federal Supply System, methods of cataloging items in the system, main parts of the system, make-up of the Federal Stock Number, contents of indexes within the system, and the procedures followed in ordering or turning-in material using the DD 1348 Form.
Prepared for: Aviation Boatswains Mate School, Class A, students
Type of Program: Linear
Average Time Required: 1 hour and 38 minutes

Validation Data:	Number of learners tested	56
	Low score	79
	High score	100
	Percentage who scored 90% or higher	88

Developer: NATTC, NAS, LAKEHURST

Retail Operations - Closeout of Records
Identification Code: None. Use title.
Procedures for closing out the following Retail Operations records in preparation for returns: S & A 977, 978, 235 and 464.
Prepared for: Supply Corps students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	30
	Low score	82
	High score	100
	Percentage who scored 90% or higher	95

Statement of objectives are not available from the developer.
Developer: NAVSCSCOL, ATHENS

Retail Operations - Returns
Identification Code: 6ND-NSCS-P-75
Procedures for the preparation and submission of Retail Operations returns.
Prepared for: Supply Corps students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	10
	Low score	83
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAVSCSCOL, ATHENS

SURFACE TACTICS

Circular Formations
Identification Code: FAAWTC SDiego PI-02
Correctly plot and label all main body stations of circular formation when given formulation axis, guide station and station assignment tables. Exercises student determination of true bearing and range to guide from any ship in formation after execution of tactical maneuvers.
Prepared for: CIC Watch Officer students
Type of Program: Linear-Text
Average Time Required: 1 hour and 11 minutes

Validation Data:	Number of learners tested	63
	Low score	55
	High score	100
	Percentage who scored 90% or higher	81

Developer: FAAWTC, SAN DIEGO

SURFACE TACTICS

Multiple Line Formations (A Confidential Program)
Identification Code: FAAWTC SDiego PI-09
Characteristics of multiple line formations, procedures for forming multiple line formations and methods for maneuvering multiple line formations.
Prepared for: CIC Watch Officer students
Type of Program: Linear-Text
Average Time Required: 33 minutes

Validation Data:	Number of learners tested	153
	Low score	40
	High score	100
	Percentage who scored 90% or higher	80

Developer: FAAWTC, SAN DIEGO

SAU Approach to Datum - Time Problems
Identification Code: FAAWTC SDiego PI-010
Compute and plot on geographic display torpedo danger area, zero time and time of entry into a contact area for both direct and indirect approach situations.
Prepared for: CIC Watch Officer students
Type of Program: Linear-Text
Average Time Required: 1 hour and 45 minutes

Validation Data:	Number of learners tested	59
	Low score	50
	High score	100
	Percentage who scored 90% or higher	71

Developer: FAAWTC, SAN DIEGO

Single Line Formations (A Confidential Program)
Identification Code: FAAWTC SDiego PI-03
Teaches student intricacies of single line formations by having him learn and apply the rules for turning, wheeling, exchanging stations, reversing order of ships, altering the line and automatic shifting of the guide.
Prepared for: CIC Watch Officer students and team training
Type of Program: Linear-Text
Average Time Required: 1 hour and 34 minutes

Validation Data:	Number of learners tested	220
	Low score	78
	High score	100
	Percentage who scored 90% or higher	70

Developer: FAAWTC, SAN DIEGO

SURVIVAL

Aircraft-Mounted Oxygen Regulators
Identification Code: None. Use title.
Cites responsibility for repairs and maintenance. Through use of schematic tracings, students are required to develop a knowledge of basic functions, nomenclature, and applicable theories of operation.
Prepared for: PR Class A and B Schools students
Type of Program: Linear
Average Time Required: 2 hours

Validation Data:	Number of learners tested	89
	Low score	78
	High score	100
	Percentage who scored 90% or higher	92

Developer: NATTC, NAS, LAKEHURST

SURVIVAL

Introduction to Aircraft Pressurization and Air Conditioning
Identification Code: CNATT-P-5187 PAT
Give a basic understanding of the purposes, general consideration, and basic requirements for pressurization and air conditioning in an aircraft as it affects the crew's physical and mental condition. (Prerequisite: Introduction to Oxygen and Nitrogen (CNATT-P-5190 PAT), listed on page S-10.)
Prepared for: AME A School students
Type of Program: Linear
Average Time Required: 1 hour and 10 minutes

Validation Data:		
	Number of learners tested	51
	Low score	88
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, MEMPHIS

The Atmosphere and Introduction to Full Pressure Suit
Identification Code: None. Use title.
To invite the student's attention to the use of specialized survival equipment such as the pressure suit. Description of atmosphere designed to provide necessary background for full understanding of mechanical functions in the pressure suit.
Prepared for: PR (Aircrew Survival Equipmentman) A/B Schools, students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:		
	Number of learners tested	50
	Low score	82
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, LAKEHURST

Egress System
Identification Code: CNATT-P-4909 (Rev. 6-66)
Types of canopies. Emergency and normal operation. Lap belts and shoulder harnesses. Operation and precautions for the Martin-Baker and RAPEC ejection seats.
Prepared for: AFUN P School students
Type of Program: Linear
Average Time Required: 1 hour and 5 minutes

Validation Data:		
	Number of learners tested	50
	Low score	90
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, MEMPHIS

Egress Systems (Revised for AB Schools)
Identification Code: CNATT-L1 PAT
Covers ejection seats used in military aircraft. It lists the main parts of an egress system. Also covered are the two types of canopies, normal and emergency canopy operation, lap belts and shoulder harnesses, altitude and speeds at which seats can be ejected, types of explosive charges used in seats, purposes of the drogue chute, differences in the RAPEC and Martin-Baker seats, four explosive devices used with ejection seats, and safety precautions to be observed.
Prepared for: Class A School students
Type of Program: Linear
Average Time Required: 1 hour (suggested reading time)

Validation Data:		
	Number of learners tested	60
	Low score	75
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

SURVIVAL

Egress Systems and the PR
Identification Code: None. Use title.
Covers the concept of operation for egress systems, their purpose and safety.
Prepared for: PR A School students
Type of Program: Linear
Average Time Required: 2 hours

Validation Data:	Number of learners tested	52
	Low score	62
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, LAKEHURST

Introduction to Oxygen and Nitrogen
Identification Code: CNATT-P-5190 PAT
Gives the grades, characteristics, use, and safety precautions pertaining to gaseous and liquid oxygen. Gives the characteristics, use, and safety pertaining to gaseous and liquid nitrogen. Gives the purpose of using these forms of oxygen and nitrogen in avaiation.
Prepared for: AME A School students
Type of Program: Linear
Average Time Required: 2 hours

Validation Data:	Number of learners tested	48
	Low score	86
	High score	100
	Percentage who scored 90% or higher	96

Developer: NATTC, NAS, MEMPHIS

Parachutes - Part I - Ripcord Construction; Part II - Suspension Lines
Identification Code: CNATT-P-5206 PAT
Part I reviews ripcord configuration and specifications. Part II covers the suspension line and its relationship to the canopy and harness attachments at the links. Use is limited to basic training.
Prepared for: Class A School students
Type of Program: Linear
Average Time Required: Part I - 24 minutes
Part II - 36 minutes

Validation Data:	Number of learners tested	113
	Low score	60
	High score	100
	Percentage who scored 90% or higher	88

Developer: NATTC, NAS, LAKEHURST

SURVIVAL

Parachute Loft and Dry Locker Procedures
Identification Code: CNATT-P-5066 PAT
Outlines general layout of physical plant, in addition to calling attention to certain recommended procedures for observing temperature and humidity. Use of the sling psychrometer and hydrothermograph is discussed in some detail. Descriptions and common dimensions are presented for numerous articles such as parachute packing tables, packing kits, and portable dry lockers. Use is limited to basic training.
Prepared for: Class A School students
Type of Program: Linear-Branching
Average Time Required: 2 hours
Validation Data:

Number of learners tested	126
Low score	85
High score	100
Percentage who scored 90% or higher	90

Developer: NATTC, NAS, LAKEHURST

Rescue Kits
Identification Code: None. Use title.
Provides initial introduction to rescue kits used in naval service. Covers their use and equipment contained within. Cites the authority required for modifications.
Prepared for: PR Class A School students
Type of Program: Linear
Average Time Required: 1 hour
Validation Data:

Number of learners tested	82
Low score	80
High score	100
Percentage who scored 90% or higher	94

Developer: NATTC, NAS, LAKEHURST

TEST EQUIPMENT

Programmed Maintenance Instruction for Frequency-Power Meter AN/SPM-4
Identification Code: NavPers 93640, 93641, 93642
Recognition of faults in the AN/SPM-4. Isolation of faults to responsible components. Practical exercises to give experience in the final phase of the maintenance task; taking corrective action. Also contains technical reviews, specifications, test data, illustrations.
Prepared for: Selected Ships and Class "C" FT Schools
Type of Program: Linear-Branching
Average Time Required: One Month
Validation Data: Not available
Statements of Objectives are available in program.
Developer: BUPERS (PERS-C12)

EGT Checks using the JETCAL
Identification Code: CNATT-M521 PAT (GEI 84265)
A General Electric Programmed Training Course which covers the operation of the JETCAL Analyzer as well as the procedures used to check turbojet engine and aircraft rpm and temperature systems.
Prepared for: ADJ Class B School students
Type of Program: Linear
Average Time Required: 3 hours and 20 minutes

Validation Data:	Number of learners tested	50
	Low score	64
	High score	100
	Percentage who scored 90% or higher	90

Developer: NATTC, NAS MEMPHIS

Tektronix 545-A Oscilloscope and Types CA and K Plug-in Units, Operation and Maintenance
Identification Code: NavPers 93866
Covers operation and maintenance of the Tektronix 545A Oscilloscope and the CA and K Plug-in Units. It covers the front panel control functions and circuit theory of operation. It covers symptom recognition, trouble isolation, equipment repair and preventive maintenance. This instruction is supplemented by laboratory exercises which reinforce (through practical experience) what has been learned from the programmed instruction text.
Prepared for: Shipboard Technicians responsible for 545 Operation and Maintenance
Type of Program: Linear
Average Time Required: 25 hours

Validation Data:	Number of learners tested	29
	Low score	Not available
	High score	Not available
	Percentage who scored 90% or higher	90

Statements of objectives are given on pages XIII and XIV of test.
Developer: BUPERS (PERS-C12)

3-M SYSTEM

Aircraft Statistical Data - Aircraft Accounting System

Identification Code: CNATT-P-5069 (Rev. 2-70)

The student will learn to prepare ESD cards to report flight data, not operationally ready data, and equipment inventory changes. The student will learn methods for forwarding aircraft statistical data and the proper procedure for making corrections to the Daily Aircraft Flight Report (ASD-1) and the Daily Aircraft Readiness Report (ASD-2). The student will also state the procedure for transmitting NOR and flight data, and how to submit this data when ESD cards are not available.

Prepared for: 3-M's Training, Data Analyst, NAMTRADETS students

Type of Program: Linear

Average Time Required: 50 minutes

Validation Data:	Number of learners tested	45
	Low score	85
	High score	100
	Percentage who scored 90% or higher	91

Developer: NAMTRAGRU, NAS, MEMPHIS

AMSE Statistical Data Reporting

Identification Code: CNATT-N-322 PAT

The purpose of this program is to teach the documentation of aviation maintenance support equipment statistical data. The AMSE data card, its use, reporting procedures, and various situations are covered by this program.

Prepared for: NAMTRADETS, Class C, students

Type of Program: Linear

Average Time Required: 1 hour and 42 minutes

Validation Data:	Number of learners tested	75
	Low score	78.4
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

Manhour Accounting Card, Parts 1 and 2 - Navy Maintenance Material Management System

Identification Code: CNATT-P-4939

The student will prepare correctly a manhour accounting card for a man who is newly assigned, transferred, temporarily transferred and temporarily assigned, and temporarily assigned to another work center for overtime. He will also learn to prepare a manhour accounting card for labor code changes, overtime, and for correcting errors submitted. (The appendices of the Naval Aviation Maintenance and Material Management Manual (0618-200-0100) and two MHA cards are required with this program.)

Prepared for: 3-M's Training, NAMTRADETS students

Type of Program: Linear-Branching

Average Time Required: Part 1 - 2 hours and 40 minutes
Part 2 - 2 hours and 15 minutes

Validation Data:	Number of learners tested	48
	Low score	52
	High score	100
	Percentage who scored 90% or higher	90

Developer: NAMTRAGRU, NAS, MEMPHIS

3-M SYSTEM

Maintenance Action Form (Aviation Maintenance Support Equipment)
Identification Code: CNATT-M528 PAT
The student will learn to fill out copies 1 and 3 of the Maintenance Action Form correctly under certain conditions. The program includes: (1) Transcribing given information from the Work Center Supervisor onto the MAF; (2) Locating and entering onto the MAF the Action Taken Code, Malfunction Description Code, Work Unit Code, Manufacturer's Code, Serial Number, and Part Number; and (3) Filling in the following blocks on the MAF: Items Processed, Corrective Action, Repair Cycle Data, Accumulated Hours, Failed Material, and Require Material. NOTE: One single copy and two multicopy MAF's are required with this program.
Prepared for: AS Class A School students
Type of Program: Linear
Average Time Required: 2 hours and 10 minutes

Validation Data:	Number of learners tested	50
	Low score	87.5
	High score	100
	Percentage who scored 90% or higher	99

Developer: NATTC, NAS, MEMPHIS

Support Action Form (Aviation Maintenance Support Equipment)
Identification Code: CNATT-M527 PAT
The student will prepare three entries on a support action form (SAF) to document three different support actions, which includes the type equipment, action organization, work center, maintenance level, action date, support code, type maintenance, items processed, manhours, and signature. This SAF is used as a document form for Aviation Maintenance Support Equipment. NOTE: Two SAF cards are required with this program.
Prepared for: AS Class A School students
Type of Program: Linear
Average Time Required: 1 hour and 5 minutes

Validation Data:	Number of learners tested	50
	Low score	94
	High score	100
	Percentage who scored 90% or higher	100

Developer: NATTC, NAS, MEMPHIS

TOOLS

Layout of Web-Plate, Flange-Plate and Dzus-Key Patterns
Identification Code: CNATT-M469 PAT
Teaches the proper use and care of hand tools and layout procedures for the web-plate, flange-plate and dzus-key.
Prepared for: Mechanical Fundamental students
Type of Program: Linear
Average Time Required: 2 hours

Validation Data:	Number of learners tested	50
	Low score	86
	High score	100
	Percentage who scored 90% or higher	94

Developer: NATTC, NAS, MEMPHIS

TRAINING PROGRAMS

Opportunities for Further Education and Officer Careers in the United States Navy
Identification Code: NAVPERS 94502-1 and 2
Indicates sources and methods by which further education can be pursued while in the service. (GED Diploma, Associate Degree in Arts/Science, Financial Help Available, Training and Service Schools, Special Programs Offered through Advancement and Reenlistment). Programs by which commissions in the Regular Navy can be obtained. Also programs and branches of the Naval Reserve in which commissions can be obtained.
Prepared for: YN/PN A School students
Type of Program: Linear
Average Time Required: 1 hour

Validation Data:	Number of learners tested	95
	Low score	52
	High score	100
	Percentage who scored 90% or higher	56.5

Developer: BUPERS (PERS-C21)

WEAPONS

Naval Gunfire Support (A Confidential Program)
Identification Code: None. Use title.
Volume I, general terminology and mission of team. Volume II, CIC procedures, radio telephone talker, dead reckoning, and weapons liaison officer. Volume III, plotting room procedures - range operator, bearing operator, elevation operator, MilSpot converter.
Prepared for: Naval Gunfire Support Team
Type of Program: Linear-Branching
Average Time Required: 3 hours for each team member
Validation Data:

Number of learners tested	Not available
Low score	64
High score	86
Percentage who scored 90% or higher	0

Developer: FLETRACEN, NAVBASE, NEWPORT

Naval Gunfire Support - Part I - Introduction (A Confidential Program)
Identification Code: None. Use title.
Provides an introduction to NGFS for officers. It covers: Phases of NGFS; Classifications of gunfire by: fire by effect, tactical uses, degrees of prearrangement, techniques of delivery, and types of fire; Characteristics of naval guns, projectiles, and fuzes; Direct and indirect fire; Other related topics.
Prepared for: Prospective Weapons Officers
Type of Program: Discrimination and Constructed Response
Average Time Required: 1 hour and 30 minutes
Validation Data: Actual validation data is not available; however, test scores obtained have increased markedly over those obtained from conventional-type instruction.
Developer: FLETRACEN, NAVSTA, SAN DIEGO

Naval Gunfire Support - Part 2
Identification Code: None. Use title.
Covers illuminating and modified illuminating fire, massing fire, target location, grid spot converter, and grid reference system.
Prepared for: Prospective Weapons Officer
Type of Program: Discrimination and Constructed Responses
Average Time Required: 1 hour and 30 minutes
Validation Data: Not available
Developer: FLETRACEN, NAVSTA, SAN DIEGO

Military Grid Reference System
Identification Code: None. Use title.
Covers briefly the UTM Grid System. Uses Pacific Coast grid locations.
Prepared for: Prospective Weapons Officers
Type of Program: Linear
Average Time Required: 1 hour
Validation Data:

Number of learners tested	150
Low score	40
High score	100
Percentage who scored 90% or higher	90

Developer: FLETRACEN, NAVSTA, SAN DIEGO

WEAPONS

Support Arms Field Artillery
Identification Code: H-611-02
To orient members of the amphibious force on one of its supporting arms, the field artillery. (Complete with post-test and answer sheet.)
Prepared for: Officer Amphibious Orientation
Type of Program: Linear
Average Time Required: 35 minutes

Validation Data:	Number of learners tested	50
	Low score	70
	High score	100
	Percentage who scored 90% or higher	96

Developer: NAVPHIBSCOL, CORONADO

(Administration)
Administrative/Logistics Plans and Orders
To teach the student the proper format and information needed to write an Administrative/Logistics Plan/Order.
For officer and enlisted personnel attending Amphibious Staff Planning Courses.
Under development.
LANDING FORCE TRAINING COMMAND, ATLANTIC

Health Record Maintenance
Explains when to use and how to fill the Health Record.
For Amphibious students.
Under development.
NAVAL AMPHIBIOUS SCHOOL, CORONADO

Officer Orders, Receipts, and Detachments
Necessity, authority and methods of issuing orders. General content, including detachment phrase equivalents, endorsements, and final disposition of orders. Travel and transportation provisions. Detachment and receipt procedures.
For YN/PN "A" School students.
Under development.
SERVICE SCHOOL COMMAND, BAINBRIDGE

The Organization of the Naval Establishment
Origin of the Navy; relation of the Navy to other members of the Armed Forces; composition and functions of the Department of the Navy; organization of the Naval Districts and the responsibilities of the shore activities within the Districts; names and purposes of the main operating forces; differences between the administrative and operational commands.
For YN/PN "A" School students.
Planned for development.
SERVICE SCHOOL COMMAND, BAINBRIDGE

(Aerodynamics)
Aerodynamics
Explains the types of aircraft control surfaces and the aerodynamic affect on the control surfaces.
For AMH "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Helicopter Landing Diagram
Covers the complete preparation of Helicopter Landing Diagram to include depiction of landing zones, landing sites and points; entry and exit routes, alternate routes; RP, IP, and various control points. Also teaches the proper method of recording this information on an overlay in proper format.
For officer and enlisted students.
Under development.
LANDING FORCE TRAINING COMMAND, ATLANTIC

(Air Traffic Control)
Air Defense Procedures
Describes the procedures used by air traffic control agencies to control air traffic and air navigation aids during an Air Defense Emergency. Contains the rules and procedures used by pilots flying with Air Defense Identification Zones.
For Air Controlman School, Class "B", students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, GLYNCO

Air Traffic Rules, CTO Certificate and Ratings
Describes the requirements for issuing certificates and associated ratings for Air Traffic Control Operators, and prescribes the general operating rules for holders of certificates and ratings.
For Air Controlman School, Class "B", students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, GLYNCO

(Air Traffic Control)
Basic Air Navigation and Aids to Air Navigation, Direction Finding Equipment
Describes the console layout and operating procedures of the URD-2A and URD-4 Direction Finding Equipment.
For Air Controlman School, Class B, students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, GLYNCO

Basic Air Navigation and Aids to Air Navigation, Instrument Landing System (ILS)
Describes the different components of the Instrument Landing System and the function of each. Contains information on supplementary components and their function when used in conjunction with ILS. Includes procedures used in making an ILS approach to familiarize the trainee with pilot techniques.
For Air Controlman School, Classes "A" and "B", students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, GLYNCO

Basic Air Navigation and Aids to Air Navigation, Radio Beacons
Describes radio beacon characteristics, frequencies, power outputs, types, operating ranges, and the airborne equipment needed for navigation.
For Air Controlman School, Class "B", students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, GLYNCO

Basic Air Navigation and Aids to Air Navigation, Air Navigation - TACAN
Describes the uses, operational characteristics and limitations of TACAN. Familiarizes the trainee with the aircraft equipment required to utilize this navigation aid.
For Air Controlman School, Class "B", students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, GLYNCO

Basic Air Navigation and Aids to Air Navigation, VOR, Part I
Describes the uses and characteristics of VHR omnidirection ranges, the aircraft equipment required to utilize this navigation aid, and pilot orientation procedures.
For Air Controlman School, Classes "A" and "B", students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, GLYNCO

Basic Air Navigation and Aids to Air Navigation, VOR, Part II
Describes the instruments required to fly the VHF omnidirectional ranges, the information that is displayed by each instrument, and the methods to use to interpret the display.
For Air Controlman School, Classes "A" and "B", students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, GLYNCO

Aviation Weather, Fog
Assists the student in learning classes and related types of fog through an understanding of the process of fog formation.
For Air Controlman School, Class "B", students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, GLYNCO

Aviation Weather, Surface Aviation Weather Observations, Part III
Designed to assist the trainee in learning to read and interpret teletype aviation weather reports. Covers the encoding and decoding of sea-level pressure, temperature, dew point, wind (includes gusts and squalls), altimeter, and remarks.
For Air Controlman School, Classes "A" and "B", students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, GLYNCO

(Aircraft)
Aircraft Electrical Protection Devices
Covers purpose, description, operation and symbols used in drawings.
For AE "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

(Aircraft)

Aircraft Electrical Switches
Covers definition, construction, operation and types of aircraft electrical switches. Also covers symbols used in drawings.
For AE "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Aircraft Electronic Control and Protection Devices
Covers the description, purposes and electrical symbols.
For AO "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Aircraft Equipment Familiarization (Power Plants and Accessories)
Provides a description of different types of power plants and their operation.
For "P" Phase students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Carbon-pile Voltage Regulators
Covers purpose, construction, operation and characteristics of aircraft a.c. and d.c. carbon-pile voltage regulators.
For AE "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Canopy Construction
Description and nomenclature.
For PR "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

A-7A Hydraulic/Pneumatic Systems Familiarization
For NAMTRADET students.
Planned for development.
NAMTRAGRU, MEMPHIS

Thrust Augmentation
Explains the operation of the coolant-injection system and the afterburner system of turbojet engines.
For ADJ "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

(Amphibious Operations)

TAC-LOG
Organization, operation and communication requirements for TAC-LOG.
For officer and enlisted requiring knowledge of control organization during selective off-loading phases of amphibious operations.
Under development.
LANDING FORCE TRAINING COMMAND, ATLANTIC

(Anti-Air Warfare)

Broadcast Intercept Control Procedures
Procedures and techniques used in Broadcast Intercept Control.
For Naval officer and enlisted air intercept control trainees.
Under development.
FLEET ANTI-AIR WARFARE TRAINING CENTER, SAN DIEGO

Operation of Decoder Group AN/UPA-59(V) (Mk XII IFF System)
Location and operation of unit controls; description of control functions; and interpretation of display presentation.
For Naval officer and enlisted CIC team trainees.
Under development.
FLEET ANTI-AIR WARFARE TRAINING CENTER, SAN DIEGO

431

(Anti-Submarine Warfare)

The T-3054 Guidance - APU/System Test Set Decoder Systems (2 parts)

Part 1 is used in conjunction with the SUBROC Missile Technician Course in an area concerning the Decoder System and lays the foundation for Part 2, which covers troubleshooting of the more complex Stimulus Decoder System. (Part 2 is given approximately six weeks after Part 1.)
For SUBROC, Class "C" School, students.
Under development.
SERVICE SCHOOL COMMAND, ORLANDO

Exercise Head Mk 30/Warhead Mk 16 Mod 0/Exploder Mechanism Mk 6 Mod 13

Covers the components of the Mk 30 Exercise Head, Warhead Mk 16 Mod 6 and components and operation of Exploder Mechanism Mk 6 Mod 13.
For TM "A" Sub and Mk 14 Mod 5 Courses, Classes "A" and "C", students.
Under development.
SERVICE SCHOOL COMMAND, ORLANDO

Mk 16 Mod 8 Gear Train

Covers the operation of the Mk 16 Mod 8 Gear Train and Combustion System.
For Torpedo Mk 16 Mod 8, Class "C" School, students.
Under development.
SERVICE SCHOOL COMMAND, ORLANDO

Torpedo Mk 44 Run Patterns

Covers complete run and attack patterns including torpedo rudder and elevator deflections.
For Torpedo Mk 44 students.
Under development.
SERVICE SCHOOL COMMAND, ORLANDO

Mk 46 Mod 1 Snake Search Pattern

Covers Mk 46 Mod 1 Torpedo's Snake Search and Attack and Reattack Patterns.
For Torpedo Mk 46 Mod 0/1, Class "C" School, students.
Under development.
SERVICE SCHOOL COMMAND, ORLANDO

(Aviation)

Heat Treatment of Aluminum, Titanium, and Magnesium

Explains the heat treating methods and alloying elements contained in each metal.
For AMS "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

T58 Combustion Section

To teach the description component parts and purpose.
For NAMTRADETS students.
Under development.
NAMTRAGRU, MEMPHIS

62A Components Test Stand

Description and nomenclature.
For PR "B" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

T58 Compressor Section

To teach the description, component parts and purpose.
For NAMTRADETS students.
Under development.
NAMTRAGRU, MEMPHIS

T58 Engine Familiarization

To teach the description and purpose of basic components and basic operation.
For NAMTRADETS students.
Under development.
NAMTRAGRU, MEMPHIS

(Aviation)
A-6A Emergency Generator Hydraulic System
To teach the components, operation and maintenance of the system.
For NAMTRADETS students.
Under development.
NAMTRAGRU, MEMPHIS

Klystrons
To teach the theory of operation and the methods of adjusting the frequency of klystrons.
For NAMTRADETS students.
Under development.
NAMTRAGRU, MEMPHIS

Oxygen Conversion Graphs
Preparation of oxygen conversion graphs.
For PR "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Heat Treatment of Steel
Identifies the types, physical properties, and processes of heat treatment of steel, including the use of the Rockwell Hardness Tester.
For AMS "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

T58 Turbine Section
To teach the description, component parts and purpose.
For NAMTRADETS students.
Under development.
NAMTRAGRU, MEMPHIS

Valve Grinding
For NAMTRADETS students.
Planned for development.
NAMTRAGRU, MEMPHIS

LAU-17A Wing Missile Pylon
Basic nomenclature and operating principles.
For AO "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

(Cartography)
Cartography (3 books)
For amphibious students.
Under development.
NAVAL AMPHIBIOUS SCHOOL, CORONADO

(Catapults)
C7/C11 Bridle Tensioner Assembly
Provides a description of components and operation of Bridle Tensioner Assembly.
For ABE "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

C7/C11 Steam Catapult Exhaust Valve System
Provides a description of components and operation of the Exhaust Valve System.
For ABE "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

(Catapults)
C7/C11 Steam Catapult, Receivers, Manifold and Thrust Unit
Provides description and purpose of the units needed for storing steam used to operate the catapult.
For ABE "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

(Chemistry)
Methods of Expressing the Concentration of Solutions, Part II
Describes the ways to determine the normality of a solution when given the weight of the solute, the chemical formula of the solute, and the volume solution. It explains how to calculate the volume and normality of a reactant.
For Propulsion Engineering Class "A" students.
Under development.
SERVICE SCHOOL COMMAND, GREAT LAKES

(Communications)
Navy Directive Issuance System
For NAMTRADETS students.
Planned for development.
NAMTRAGRU, MEMPHIS

Naval Air Systems Command Technical Directives System
A three-part program explaining the format and content of NAVAIRSYSCOM Technical Directives, the "Technical Directive Compliance Form," and the "Configuration Control Form."
For AZ "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Effective Communications
Covers the areas of Listening, Writing, giving order, barriers, and the Petty Officer's role as it applies to the field of Communications.
For IT "L" School students.
Under development.
SERVICE SCHOOL COMMAND, GREAT LAKES

Drafting and Editing Naval Messages
For Supply Corps officers.
Under development.
NAVAL SUPPLY CORPS SCHOOL, ATHENS

(Computer Programming)
Complement Arithmetic
Use of complement arithmetic in addition and subtraction.
For Naval officer and enlisted AN/USQ-20 computer programmer trainees.
Under development.
FLEET ANTI-AIR WARFARE TRAINING CENTER, SAN DIEGO

Introduction to Computer Programming
Functions of a digital computer, definitions of computer related terms.
For Naval officer and enlisted AN/USQ-20 computer programmer trainees.
Under development.
FLEET ANTI-AIR WARFARE TRAINING CENTER, SAN DIEGO

Basic Flow Charting - Part I - Definitions and Symbols
Definition, identification and functional use USASI approved flow chart symbols.
For Naval officer and enlisted AN/USQ-20 computer programmer trainees.
Under development.
FLEET ANTI-AIR WARFARE TRAINING CENTER, SAN DIEGO

Basic Flow Charting - Part II - Flow Chart Construction
Construction of simplified flow charts using USASI approved symbols and correct rules for preparation; differentiation between "problem oriented" and "computer oriented" statements.
For Naval officer and enlisted AN/USQ-20 computer programmer trainees.
Under development.
FLEET ANTI-AIR WARFARE TRAINING CENTER, SAN DIEGO

(Computer Programming)
Instruction Word Format
Function of each part of computer instruction; preparation of basic computer instruction.
For Naval officer and enlisted AN/USQ-20 computer programmer trainees.
Under development.
FLEET ANTI-AIR WARFARE TRAINING CENTER, SAN DIEGO

Loops and Indexing
Construct flow diagrams of various common loops; determination of test counts and indexing schemes.
For Naval officer and enlisted AN/USQ-20 computer programmer trainees.
Under development.
FLEET ANTI-AIR WARFARE TRAINING CENTER, SAN DIEGO

Number Systems
Basic number systems rules; conversion between number systems; and arithmetic operations between systems.
For Naval officer and enlisted AN/USQ-20 computer programmer trainees.
Under development.
FLEET ANTI-AIR WARFARE TRAINING CENTER, SAN DIEGO

Octal Arithmetic
Performance of all basic arithmetic operations in octal number system.
For Naval officer and enlisted AN/USQ-20 computer programmer trainees.
Under development.
FLEET ANTI-AIR WARFARE TRAINING CENTER, SAN DIEGO

"Quest" Language
Basic fundamentals and translation of programming language to be used with the "Quest" system.
For Naval officer and enlisted Amphibious Flagship Data System/"Quest" System.
Under development.
FLEET ANTI-AIR WARFARE TRAINING CENTER, SAN DIEGO

(Correspondence)
Naval Letter
Correct procedures and format for constructing a Naval letter.
For AG A School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Drafting and Editing Naval Speedletters
For Supply Corps Officers.
Under development.
NAVAL SUPPLY CORPS SCHOOL, ATHENS

(Damage Control)
Damage Control Fittings and Compartment Check-Off Lists
Will teach students to identify and classify damage control fittings and will demonstrate the procedure for preparing and maintaining a compartment check-off list.
For E-2 through E-4 students.
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

Damage Control Repair Parties
Will teach the eight repair parties, their functions, and their locations on board a ship. It will also teach what personnel will be assigned to each repair party, how the repair parties are divided into units, and the duties of personnel assigned to repair parties.
For E-2 through E-4 students.
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

(Electricity)
Common-base Amplifiers
Covers the definition, construction, operation and characteristics of the common-base amplifier.
For AE "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

(Electricity)
Decibels
To teach the use of decibels as associated with electrical/electronic systems.
For NAMTRADETS students.
Under development.
NAMTRAGRU, MEMPHIS

F-4B/J Exterior Lighting System
To teach organizational maintenance of the exterior lighting system by teaching the controls, circuitry and components pertinent to the system.
For NAMTRADETS students.
Under development.
NAMTRAGRU, MEMPHIS

Time Variable Gain (TVG)
A 3-volume series on Gain Control Circuits. Vol. 1 covers the purposes and function of Time Variable Gain (TVG). It explains why TVG is required and how it is accomplished. Volumes 2 and 3 will cover Automatic Volume Control (AVC) and Delayed Automatic Volume Control (DAVC) respectively.
For Class "A", Basics, Schools students.
Under development.
SERVICE SCHOOL COMMAND, ORLANDO

Trigonometry
Covers the use of the trigonometric functions necessary for the understanding and solution of a.c. theory problems.
For AE "A" School students
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

(Electronics)
Atomic Structure and Modern Electron Theory
Covers the structure and theory of atomic and modern electron theory.
For AE A School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Methods of Biasing
Principal methods of electrically biasing vacuum tubes, related terminology, functions of biasing, and their characteristics in basic electronic circuitry.
For ST "A-2" School students.
Under development.
FLEET ANTI-SUBMARINE WARFARE SCHOOL, SAN DIEGO

Capacitance
Principles of operation, types, circuitry functions, construction, color coding, and computation of values for various circuitry uses.
For ST "A-2" School students.
Under development.
FLEET ANTI-SUBMARINE WARFARE SCHOOL, SAN DIEGO

Cryogenics
Teaches the history of cryogenics, the production of cryogenic temperatures, and the application of cryogenics to the field of electronics.
For AFTA "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Rapid ECM Evaluation
Use of general techniques for the rapid evaluation of intercepted electronic signals.
For Naval officer and enlisted Electronic Warfare and CIC Team trainees.
Under development.
FLEET ANTI-AIR WARFARE TRAINING CENTER, SAN DIEGO

(Electronics)

Electromagnetic Spectrum

Teaches the electromagnetic spectrum, and the relationship of wavelength to the spectrum. Teaches the computation of wavelength.
For AFTA "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

The Modern Electron Theory

Covers the structure of the atom using the modern electron theory.
For AE "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Inductance

Principles and operations of electromagnetism, electromagnetism induction, factors affecting flux density, inductance characteristics, inductive reactance and LR time constants.
For ST "A-2" School students.
Under development.
FLEET ANTI-SUBMARINE WARFARE SCHOOL, SAN DIEGO

Junction Transistors (Intermediate)

Covers recognition of transistor symbols, basic biasing of emitter/base and base/collector junction. Describes the basic factors dealing with gain in a common base circuit and factors affecting all types of transistor gain.
For ST "A-2" School students.
Under development.
FLEET ANTI-SUBMARINE WARFARE SCHOOL, SAN DIEGO

Graphic Symbols for Logic Diagrams

Discussion of "AND", "OR", "NAND" and "NOR" logic graphical symbols. Functions and related terminology of these symbols. Discussion of and problem solutions involving truth tables.
For Class "C" Course students.
Under development.
FLEET ANTI-SUBMARINE WARFARE SCHOOL, SAN DIEGO

Semi-Conductor Theory

Basic atomic theory, structure of matter, energy levels of electrons according to quantum theory, valences, and electrical conductors, insulators and semi-conductors. The structure and operating characteristics of semi-conductors, impurities of semi-conductors and the effects of impurities.
For ST "A-2" School students.
Under development.
FLEET ANTI-SUBMARINE WARFARE SCHOOL, SAN DIEGO

Introduction to Synchros

Covers the basic theory, construction, and types of synchros.
For AE "A" School students
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Transformer Theory

Description and discussion of transformer construction, functioning, characteristics and usage. Discussion of phase windings, capabilities, voltage applications and coupling/efficiency current ratings.
For ST "A-2" School students.
Under development.
FLEET ANTI-SUBMARINE WARFARE SCHOOL, SAN DIEGO

Triode Transistors

Covers the basic theory, construction, and operation of triode transistors.
For AE "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

(Electronics)
Introduction to Transistors
Development of transistors, analysis of the structure and operating characteristics of the point-contact diode, junction diode, point-contact transistors and the junction transistor.
For ST "A-2" School students.
Under development.
FLEET ANTI-SUBMARINE WARFARE SCHOOL, SAN DIEGO

(Engineering)
NAVSHIPS Technical Manual (NAVSHIPS 250-000)
This program will familiarize officer and enlisted personnel of the Engineering School with the NAVSHIPS Technical Manual for use aboard their respective ships.
For E-2 through 0-4 students.
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

Shipboard Conditions of Readiness
Covers the purpose for Conditions of Readiness for Action and Material Conditions of Readiness, when each condition is used and what fittings are closed for each condition. Five special classifications of fittings and their purposes are also covered. This program briefly gives the information contained in a Compartment check-off list and the proper procedures to use when it is deemed necessary to break a condition.
For E-2 through E-4, 0-1 and 0-2 students.
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

Compartmentation and Numbering
Designed to teach the purpose of compartmentation, ship structure terminology, and the two basic compartmentation numbering systems, both pre- and post-1949. Upon completion of the program the trainee should be able to locate a compartment when given the compartment symbol.
For E-2 through E-4, 0-1 and 0-2 students.
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

(Fluids)
Lubricants and Hydraulic Fluids
Explains the types and properties of the lubricants and hydraulic fluids used in ground support equipment.
For AS "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

(Fuel System)
F-4B/J Liquid Oxygen System
For NAMTRADETS students.
Planned for development.
NAMTRAGRU, MEMPHIS

(Jet Engine)
Principles of Operation for Gas Turbine Power Plants
Explains the operation of basic jet engines.
For ADJ "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

(Learning)
Evaluation of Instruction
Covers the purpose and scope of classroom evaluation and the principles types of evaluation devices in terms of content and procedures for use.
For IT "A" School students.
Under development.
SERVICE SCHOOL COMMAND, GREAT LAKES

Factors Affecting Learning
For IT "A" School students.
Under development.
SERVICE SCHOOL COMMAND, GREAT LAKES

(Learning)
How to Study
Covers classroom interaction between the student and instructor, techniques for studying in private, procedure for outlining and a technique for taking test.
For IT "A" School students.
Under development.
SERVICE SCHOOL COMMAND, GREAT LAKES

(Manuvering Board)
Resultant and Difference of Forces
Addition and subtraction of vectors by use of the maneuvering board.
For AG "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

(Map Reading)
Extension of Map Reading to Land Navigation
Part I - To teach the Compas parts and use.
Part II - To teach azimuth and back azimuth.
Part III - To follow an azimuth and get from one point to another along the azimuth.
Part IV - Determining distance by pacing.
Part V - To teach the student how to detour around obstacles and remain or return to the same azimuth.
Part VI - To use the compass at night.
For Small Unit Leaders.
Under development.
LANDING FORCE TRAINING COMMAND, ATLANTIC

(Mathematics)
Areas
Covers area formulas and their application.
For AO "A" & "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Binary Math
Methods of conversion of binary, octal, and decimal numbering systems into each other. Solutions of problems involving basic arithmetical operations in these numbering system. Discussion of "binary coded decimal system", "excess 3 code", and "grey code."
For Class "C" Course students.
Under development.
FLEET ANTI-SUBMARINE WARFARE SCHOOL, SAN DIEGO

Solution of Right Triangles
Use of the pythagorean theorem, sine, cosine, and tangent in solution of right triangles.
For AG "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Signed Numbers
Teaches the basic operations of signed numbers, addition, subtraction, multiplication and division.
For Propulsion Engineering Class "A" School students.
Under development.
SERVICE SCHOOL COMMAND, GREAT LAKES

(Mechanical Theory)
Flow Measuring Devices
Explains the construction features and operating principles of the mechanical flow measuring device, and the differential pressure type flow measuring device.
For Propulsion Engineering Class "A" School students.
Under development.
SERVICE SCHOOL COMMAND, GREAT LAKES

(Mechanical Theory)
Pressure and Temperature Control Valves, Part I
Explains the principles of operation of the spring, liquid, and pilot actuated types of control valves. It also explains the operation of the gas actuated control valves including the low temperature and high temperature reducing valve.
For Propulsion Engineering Class "A" School students.
Under development.
SERVICE SCHOOL COMMAND, GREAT LAKES

(Mechanics)
Automotive Carburetor
For NAMTRADETS students.
Planned for development.
NAMTRAGRU, MEMPHIS

Automotive D. C. Voltage Regulator
For NAMTRADETS students.
Planned for development.
NAMTRAGRU, MEMPHIS

Internal Combustion Engine
For NAMTRADETS students.
Planned for development.
NAMTRAGRU, MEMPHIS

Principles of Machines
Covers basic machines and their mechanical advantage and efficiency.
For AO "A" & "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Reciprocating Power Plant Principles
Explains power production in a reciprocating engine.
For ADR "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

(Meteorology)
Air Mass Formation
Develops an understanding of the world's air masses, their source regions and their properties.
For AG "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Changes of State
Defines and develops an understanding of the process involved in the changes of state of various meteorological elements.
For AG "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Convergence and Divergence
Teaches principles of convergence and divergence and their effects on air parcels in the atmosphere.
For AG "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

The Hydrostatic Equation
The application of the hydrostatic law to incompressable fluids and the atmosphere.
For AF "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

(Meteorology)
Classification and Description of Ice
Defines and teaches the basic terms and classifications used in observing ice in the sea.
For AG "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Jet Stream
Teaches terms, causes and effects associated with the various jet stream systems in the upper atmosphere.
For AG "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Meteorological Optical Phenomena
Develops an understanding of the nature and proportions of light as applied to meteorology.
For AG "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Meteorological Elements of Physics
Shows the relationship of basic laws of physics to the science of meteorology.
For AG "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Rotational Motion, Part I
Teaches terms and basic principles of rotational motion (vorticity) in meteorology.
For AG "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Rotational Motion, Part II
Applies terms and principles taught in Part I to CAVT computations and manipulation of the vorticity theorem.
For AG "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

(Military Justice)
Introduction to Naval Justice
Introduction to Naval Justice listing legislative and interpretative sources of laws which govern Military Law, identifying the Manual for Courts-Martial and the Uniform Code of Military Justice, showing persons who are subject to the Code of Military Justice, listing of definitions of common legal terms used in the Uniform Code of Military Justice and the Manual for Courts-Martial and basic forms used for Commanding Officer's Non-Judicial Punishment.
For YN/PN "A" School students.
Planned for development.
SERVICE SCHOOL COMMAND, BAINBRIDGE

(Missiles)
The Stable Reference Platform
Basic principles of an Inertial Guidance System. Description and operation of a Stable Reference Platform. Component descriptions and functions. NOTE: Other Service Schools teaching in the area of Inertial Guidance System should find the program helpful.
For SUBROC "C" School students.
Under development.
SERVICE SCHOOL COMMAND, ORLANDO

(Munitions)
Introduction to Ammunition
Covers purposes, classes and uses of aircraft bombs.
For AO "A" & "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

(Munitions)

Introduction to Army and Navy Bomb Fuzes

Covers types, classes, description, stowage and handling of fuzes.
For AO "A" & "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Introduction to Airborne Rocket Warheads

Covers description, purposes of design, classification and safety of rocket warheads.
For AO "A" & "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

(Navigation, Air)

ADF Navigation Procedures

Describes the operational use of ADF. The mathematics of bearing changes inbound and outbound are discussed.
Student Aviators.
Under development.
NAS, KINGSVILLE

Communications and Associated Electronic Equipment

TF-9/TA-4 aircraft radio and navigational equipment discussed. IFF/SIF equipment uses described. General program on introduction to aircraft components.
Student Aviators.
Under development.
NAS, KINGSVILLE

TACAN Navigational Procedures

Describes operational uses of TACAN. Point-to-point navigation, radial changes inbound and outbound, arcing, non-standard holding entries are discussed.
Student Aviators.
Under development.
NAS, KINGSVILLE

(Ordnance)

Programmed Text for MK-101 Control and Monitor with the T-414/P-3 AMAC System

Includes a description of the components of the T-414 AMAC system. An evaluation of the responses/indications when controlling and monitoring the MK-101 Depth Bomb using the T-414 AMAC System in P-3 aircraft is included.
For ASW Pilots, Naval Flight Officers, Air Intelligence Officers.
Under development.
NUCLEAR WEAPONS TRAINING CENTER, PACIFIC

Programmed Text for MK-101 Control and Monitor AERO 6B AMAC

Includes a description of the components of the AERO-6B AMAC system. An evaluation of the responses/indications when controlling and monitoring the Mk-101 Depth Bomb using the AERO-6B AMAC system is included.
For ASW Pilots, Naval Flight Officers, Air Intelligence Officers.
Under development.
NUCLEAR WEAPONS TRAINING CENTER, PACIFIC

Introduction to the Mk 12 20MM Gun

Covers general characteristics, safety features and nomenclature of the MK 12 gun.
For AO "A" & "B" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Gun Battery Alignment

Will cover terminology and basic ideas and principles associated with shipyard and afloat alignment of all fire control and gunnery systems.
For FT and GM ratings; Gunnery and Weapons Officers.
Planned for development.
FLEET TRAINING CENTER, NEWPORT

(Ordnance)
Mk 46 Gunfire Control System
Will cover troubleshooting procedures for director power drives.
For all FT petty officers and strikers.
Planned for development.
FLEET TRAINING CENTER, NEWPORT

Mk 68 Gunfire Control System
Will cover the operation of the Mk 68 gunfire control system.
For all FT petty officers and strikers.
Planned for development.
FLEET TRAINING CENTER, NEWPORT

Aero 5A-1 Launcher
Basic nomenclature and operating principles.
For AO "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Aero 7A Launcher
Basic nomenclature and operating principles
For AO "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

LAU-7A Launcher
Basic nomenclature and operating principles.
For AO "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

(Personnel)
Officer Leave and Liberty
This is a revision of NAVPERS 94033 and will include revising the section on the liberty card, adding the JUMP System, adding a section on the pay entry base date, and adding frames to cover the topic of lost time.
For YN/PN "A" School students.
Under development.
SERVICE SCHOOL COMMAND, BAINBRIDGE

(Physics)
Atomic Structure
Teaches the properties of matter, the concepts of atomic structure, the bonding of atoms, and the types and causes of matter changes.
For AFTA "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

(Physics)
Energy and the First Law of Thermodynamics, Part II
Defines the various kinds of energy and explains energy transformation dealing with the heat and work involved in the study of thermodynamics.
For Propulsion Engineering Class "A" School students.
Under development.
SERVICE SCHOOL COMMAND, GREAT LAKES

Force and Motion
Covers the basic fundamentals of force and motion.
For AO "A" & "B" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, JACKSONVILLE

Forces
Discusses forces, vector, addition of forces, torque, stability and friction.
For Propulsion Engineering Class "A" School students.
Under development.
SERVICE SCHOOL COMMAND, GREAT LAKES

(Physics)
Difference of Forces
Find the difference of force by the subtraction of vectors.
For AG "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Resultant of Forces
Find the resultant of two or more forces by the addition of vectors.
For AG "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Heat
Teaches the effects of heat on matter, and the relationship between heat and work.
For AFTA "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Infrared Principles
Teaches the basic principles of infrared, the optical systems associated with intrared, infrared detectors, and typical application of infrared.
For AFTA "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Light
Teaches the properties of light and its measurement. The behavior of light under varying conditions, and the control of light by focusing.
For AFTA "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Matter and Energy
Teaches the concept of matter, the general properties of matter, the three states of matter, and the relationship between matter and energy.
For AFTA "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

Introduction to the Nature of Matter
Describes the difference between weight and mass, and discusses density.
For Propulstion Engineering Class "A" School students.
Under development.
SERVICE SCHOOL COMMAND, GREAT LAKES

Sound
Teaches the transfer of sound energy by waves, and the nature and properties of sound.
For AFTA "B" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS

(Programmed Instruction)
Learning Concepts As They Pertain to Programmed Instruction Materials
Discusses the psychological terminology used with the Behaviorist Theory of Learning as applied to Programmed Instruction.
For IT "A" School students.
Under development.
SERVICE SCHOOL COMMAND, GREAT LAKES

Introduction to Programmed Instruction
Covers the definition of Programmed Instruction, Basic Principles, Developmental Process, Feasibility of Use, Type Format and the instructor's responsibility for the administration in the classroom.
For IT "A" School students.
Under development.
SERVICE SCHOOL COMMAND, GREAT LAKES

(Publication)
Aircraft Launching Bulletins
For ALRE (0) students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

(Seamanship)
Fueling at Sea
Designed to teach fueling at sea by the close-in method and by the span-wire method. When the student completes this program, he will be able to describe the methods and procedures necessary under both methods. He will also be able to name the equipment used in fueling, the emergency release of the rig and the safety precautions to be observed.
For E-2 through E-4, 0-1 and 0-2 students.
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

(Security)
Security of Classified Information
Defines the basic terms used: identifies the categories and methods of marking; identifies the types of security investigations for clearances; enumerates the basis and responsibility for security; states the requirements for custody and stowage; indicates the methods of transmission; downgrading and declassification; clearance required in order to witness destruction of classified documents.
For YN/PN "A" School students.
Under development.
SERVICE SCHOOL COMMAND, BAINBRIDGE

(Submarine Training)
Introduction to Distilling Plants
Designed to introduce the trainee to the 8000 and 2000 G.P.D. distilling units used on board submarines to produce fresh water. Covers the basic principles of operation and the theory of operation.
For Basic Enlisted Submarine School students.
Under development.
SUBMARINE SCHOOL, NEW LONDON

Introduction to Valves
Designed to introduce the trainee to the different valves used on board submarines. Covers the construction features, operating principles, motive power, and the purpose and system that the particular valve would be used in. Also includes the valve handwheel color scheme.
For Basic Enlisted Submarine School students.
Under development.
SUBMARINE SCHOOL, NEW LONDON

(Supply)
10 Classes of Supply
To familiarize the student with the 10 Classes of Supply.
For officer and enlisted personnel attending Embarkation Courses.
Under development.
LANDING FORCE TRAINING COMMAND, ATLANTIC

(Supporting Arms)
Fire Support Ships and Their Armament
Teaches the types of NGFS ships and their armament, also the role of various NGFS.
For E-2 through 0-4 students.
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

Naval Gunfire Call for Fire
Part 1, The Call.
Part 2, Firing Reports; Spotting; and Terminology.
For Amphibious students.
Under development.
NAVAL AMPHIBIOUS SCHOOL, CORONADO

(Supporting Arms)
Naval Gunfire - Call for Fire
Drills the students both in the sequence of the call for fire and in the procedure.
For E-2 through 0-4 students.
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

Terminology Peculiar to Naval Gunfire Spotting
Students are taught definitions of terms with a linear program. Terms are learned individually until all required are understood.
For E-2 through 0-4 students.
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

Planning for Target Destruction
An adjunct program (linear) to be used in conjunction with NWIP-22-2(A) for planning target destruction.
For 0-1 through 0-4 students.
Under development.
NAVAL AMPHIBIOUS SCHOOL, LITTLE CREEK

(Survival)
Exposure Suits
Description and nomenclature.
For PR "A" School students.
Under development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

Life Preservers
Description and nomenclature.
For PR "A" School students.
Planned for development.
NAVAL AIR TECHNICAL TRAINING CENTER, LAKEHURST

(3-M Systems)
Revision of existing Maintenance/Material Management Programs.
For NAMTRADETS students.
Planned for development.
NAMTRAGRU, MEMPHIS

(Training Programs)
Selective Training and Retention Program, STAR
Purpose, features, benefits, and guarantees of the STAR Program.
For YN/PN "A" School students.
Under development.
SERVICE SCHOOL COMMAND, BAINBRIDGE

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(NAVCOMMTRACEN, PENSACOLA)
Commanding Officer
Naval Communications Training Center
Pensacola, Florida 32511

(NAVSCOLCONST, CBC, PORT HUENEME)
Commanding Officer
Naval Schools Construction, CBC
Port Hueneme, California 93041

(NUCWPNSTRACEN, PAC)
Commander
Nuclear Weapons Training Center, Pacific
Naval Air Station, North Island
San Diego, California 92135

(SERVSCOLCOM, BAINBRIDGE)
Commanding Officer
Service School Command
Naval Training Center
Bainbridge, Maryland 21905

(SERVSCOLCOM, GREAT LAKES)
Commanding Officer
Service School Command
Building 300
Naval Training Center
Great Lakes, Illinois 60088

(SERVSCOLCOM, SAN DIEGO)
Commanding Officer
Service School Command
Naval Training Center
San Diego, California 92133

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